AMAZING FANTASTIC STORY MAGAZINE

featuring:

THE LAWS OF CHANCE

A Novel
by Murray Leinster

THE CAVERN OF THE SHINING POOL

by Arthur Leo Zagat

SPRING 25c

Wohee!

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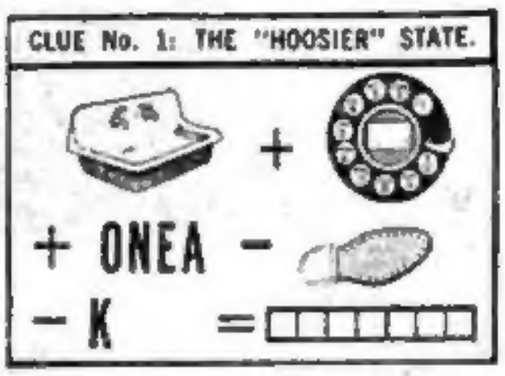
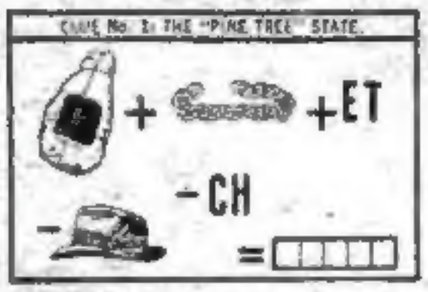


You will see there are a SINK, a DIAL, the SOLE of a shoe and various letters of the alphabet. There are two plus and two minus signs. It is necessary to add and subtract the names and letters as shown by the plus and minus signs. First, write down SINK. Then, add DIAL to it. Next, add ONEA. All this equals SINKDIALONEA. Now, you must subtract the letters in SOLE and K. When this is done you are left with INDIANA. Indiana is the Hoosier State, so the result checks with Clue No. 1.

Fun? Yes! Now Solve This Typical Contest Puzzle



FUN TO ENTER! FUN TO DO!

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The EnterPRIZE "Quick-Action" PUZZLE CONTEST is the contest every puzzle-minded person in the country has been waiting for. This contest is sponsored by the National Book Club to introduce its publications to as many new friends as possible. Just look at the SAMPLE PUZZLE at the left. Here is a typical puzzle with every picture waiting to be identified. Everything open and above board — nothing tricky. That's one big reason you'll agree this is among the fairest, squarest contests ever offered to American puzzle-fans.

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City ..... Zone ... State .....

VETS write in date of discharge .....

Mail Today-Tested Way to Better Pay

FANTASTIC STORY MAGAZINE

A THRILLING PUBLICATION

•

VOL. 7, No. 1
SPRING ISSUE

A Classic Novel

THE LAWS OF CHANCE ..... **MURRAY LEINSTER** **10**
Everything had gone up in smoke—except for the steadfast faith Steve had in science . . . and the faith which Fran had in Steve!

A Classic Novelet

CAVERN OF THE SHINING POOL ..... **ARTHUR LEO ZAGAT** **78**
Wind and gravity were reversed, but what became of the lost crew?

Five New Stories

LOCAL CUSTOM ..... **TOM WILSON** **71**
They'd left behind them the mores of the world they'd come from

CARGO TO MARS ..... **WALTER H. MULSTAY** **91**
Only the colonists knew why the captain didn't abandon his ship

THE RED NIGHT OF TWEA ..... **R. J. McGREGOR** **98**
The invasion was kid stuff, and it hit the nurseries first. . . .

MEB ..... **ALFRED COPPEL** **107**
His mother should have warned him there'd be nights like this!

UNDERDOG ..... **WILLIAM L. BADE** **112**
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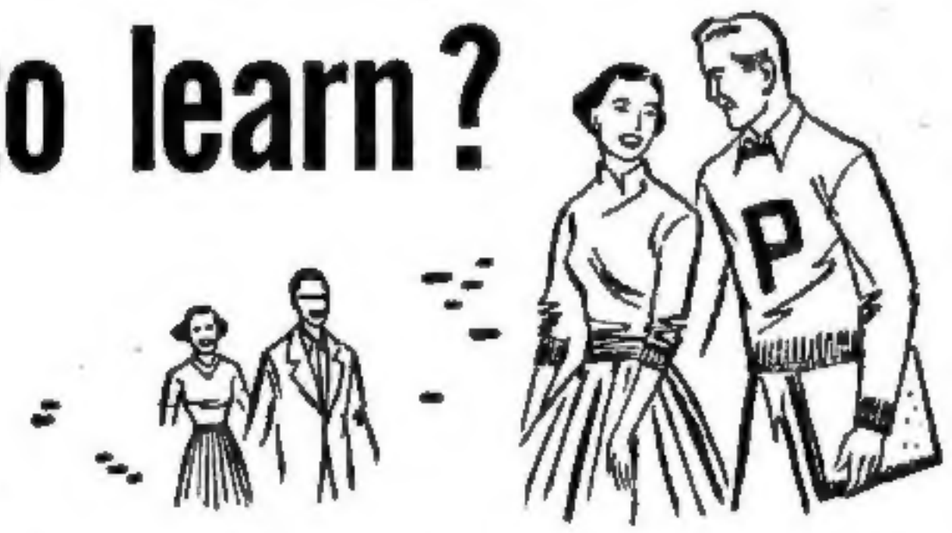
Are you too old to learn?



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Occupation_____

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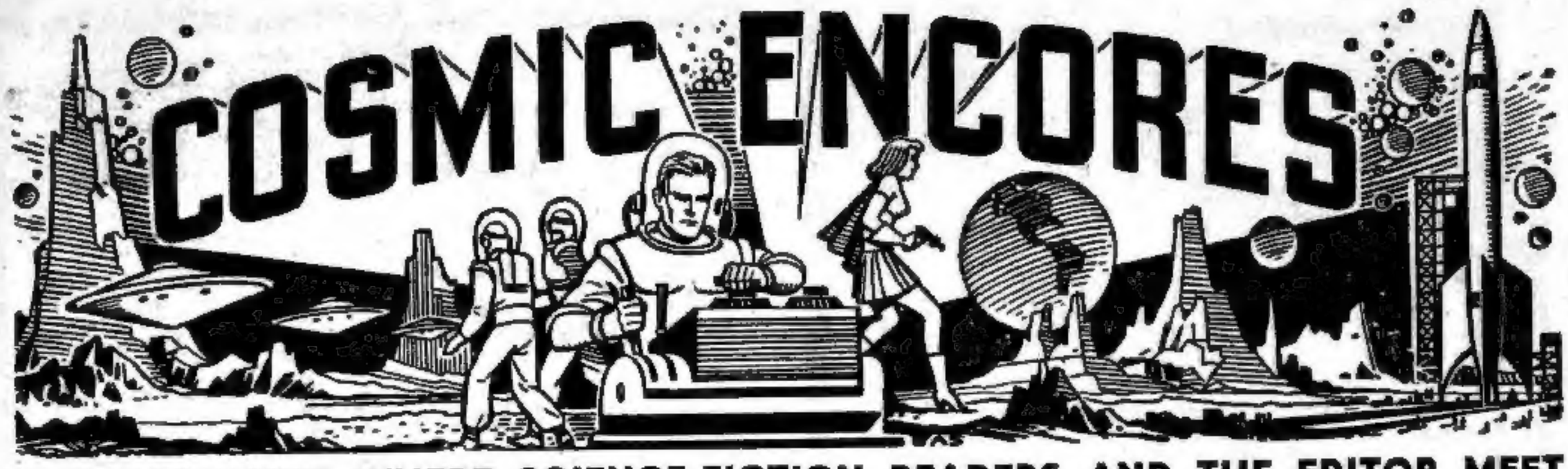

A DEPARTMENT WHERE SCIENCE-FICTION READERS AND THE EDITOR MEET

SCIENCE FICTION has its lighter aspects and this is all to the good. They balance the serious thinkers and sombre moments, of which there are many and excellent ones. It also has its practical jokers and crackpots. We do not class among its gayer moments the sort of thing which happened recently to Jinx Falkenburg and Tex McCrary, noted husband-and-wife team of NBC-TV and radio commentators.

Let it be said at the beginning that we are not necessarily McCrary fans. We see eye to eye with them on nothing but tennis. We are simply against the kind of persecution which hits below the belt, no matter at whom it is directed.

It seems that the McCrarys had scheduled Major Donald E. Keyhoe, author of FLYING SAUCERS FROM OUTER SPACE, for their radio program. Someone noted this fact and the night before the show phoned the McCrary home in Manhasset, Long Island. It might be noted in passing that the telephone is unlisted and prying an unlisted number out of the phone company is an impossible task. We've had to try it on one or two occasions and we speak from experience. However, somehow, someone got the number, and called.

A butler (yes, there are still butlers) answered the phone and a high pitched voice described as "whining" said it was a voice from outer space, that earth was being watched and that the McCrarys had better call off their broadcast and stop talking about flying saucers and bombs and war, or the planet would be annihilated. It wound up by saying, ominously, "We do not want to harm the children."

At that point th affair ceased being a joke. An implied threat to a man's children takes any vestige of fun out of it. McCrary was understandably uneasy.

The radio program went on as scheduled in the morning and the interview with Major Keyhoe was in progress when the second call came into the studio at the Waldorf-Astoria in New York. A woman's voice, claiming to be an operator from Los Angeles, said there was an important call for McCrary. A high-pitched voice delivered a message which McCrary later described as "screwball, pacifist, party-line stuff." By "party-line' we assume McCrary meant Communist. It is interesting to note that he links pacifitst, screwballs and Communists as one—and we assume both pacifists and screwballs will resent it bitterly.

Just before the program ended, a second call came in. This time the "operator' was from Salt Lake City. The voice from outside claimed to be on a space ship outside the atmosphere. McCrary held a hand microphone to the telephone and the voice went out over a national hookup to the entire country.

"This is a voice from outer space," it said. "I warn you earthmen to stop talking about flying saucers, about bombs and preparations for war, for unless you learn to live in peace, your planet will be annihilated. I know this because I am in a position to see and you are not. I am reaching you with difficulty. You cannot see me and you could not bear the sight if you did. It would be too hideous."

Startled listeners began to jam NBC's switchboard with calls, wanting to know if the Martians were landing. There was a small sized Orson Welles panic.

The telephone company was doubtful about the calls having originated in Los Angeles or Salt Lake City, but of one thing they were sure —they hadn't come from outer space.

A fourth and final call came to the McCrary home again the following afternoon, with the voice assuring the butler that no harm would come to the children.

There the matter rests. Most likely it was no more than a practical joke. But not a good

(Continued on page 120)

"I haven't been to a barber in a year!

"I just comb myself a haircut since I discovered the famous

Playtex® Home Hair Cutter*!"

says Mr. James Gilligan of Avon-by-the-Sea, N. J.

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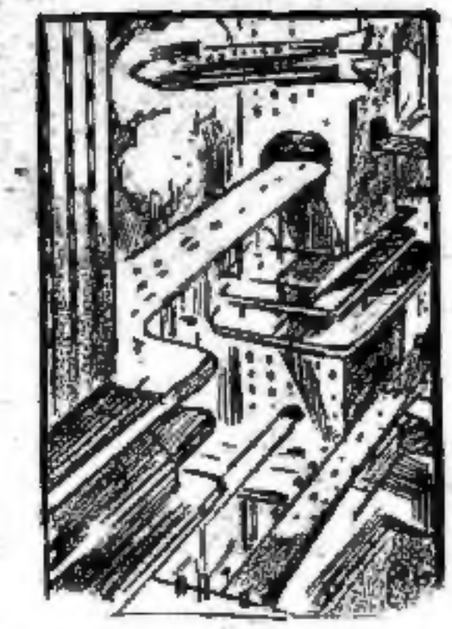

A Page of News from the Science Front

TELEVISION SHOWS may be recorded on tape for re-showing in the near future, offering a substantial saving over the cost of putting them on film. Tape recording permits playback instantly without the printing and developing process necessary with film. Tape can also be wiped clean and used again. And it takes less storage space than film. The process, developed by RCA, uses half-inch wide magnetic tape and is a more complicated process than the mere taping of sound. Sound tape needs only handle impulses up to 15,000 cycles a second whereas sound and vision runs from zero to 4,000,000 cycles.

POWER FROM THE ATOM will become a reality in 1956 or 1957. The first full-scale atomic reactor built by Westinghouse, originally planned for an aircraft carrier, has been released by the Navy for peacetime use instead. It will produce 60,000 kilowatts of electric power and will be operated experimentally by the government, since private industry is not yet ready to go in for large-scale atomic power plants.

THE FAMILIAR SPINNING GYROSCOPE is threatened by a new vibratory type which operates like a tuning fork. It can measure turns as slow as the earth's rotation or as fast as 100 revolutions a minute. Though still in the experimental stage it may eventually replace the other type of gyroscope entirely in navagational instruments.

GIRLS HAVE TWICE AS MANY BIRTHMARKS as boys, according to two doctors from Albany Medical College. Most are present at birth, but they can develop in the teen ages, or even at pregnancy. The deduction that they may have something to do with female hormones is now being studied. Malignant varieties are rare, but any which are disfiguring, or which grow, can be removed by surgery or other methods.

CRANBERRIES AND PENICILLIN seem like a strange diet, but a chemical from cranberries has been found to enhance the effect of penicillin in the human body. The chemical is ursolic acid, which occurs in many smooth-skinned fruits, such as apples. Cranberries, however, are a ready and plentiful source and research is going forward on purifying an amino derivative from the acid.

THE WORLD'S NUMBER ONE DISEASE, in case you hadn't heard, is schistosomiasis. It's a tropical blood disease caused by a fluke, which was contracted by thousands of our servicemen in the South Pacific. There are supposed to be 114,000,000 cases in the world. A new drug to control it, with the romantic appelation of WIN 4304, has just been announced.

CONTACT LENSES HAVE BEEN TESTED by the army for field use. They have advantages in rain and snow since they do not coat over like ordinary glasses and they do not steam up when coming from cold to warm areas. They are also of obvious advantage where the use of gas masks, binoculars and various kinds of helmets are worn. They provide better visual correction, are almost impossible to break and do not reveal the position of the wearer by reflecting light as regular glasses do. Yet there are disadvantages. Cost is one; the difficulty of fitting is another; some types need fluid; they are easily lost and few people can wear them for any extended length of time. For some purposes they are irreplaceable, but further improvement is needed.

AIRPLANES ARE CONSIDERED FRAGILE devices, yet modern planes are made to such precision and given such excellent maintenance care that they actually last much longer than the average family car.

—Dixon Wells

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Today it is known that they discovered and learned to interpret certain *Secret Methods* for the development of their inner power of mind. They learned to command the inner forces within their own beings, and to master life. This secret art of living has been preserved and handed down throughout the ages. Today it is extended to those who dare to use its profound principles to meet and solve the problems of life in these complex times.

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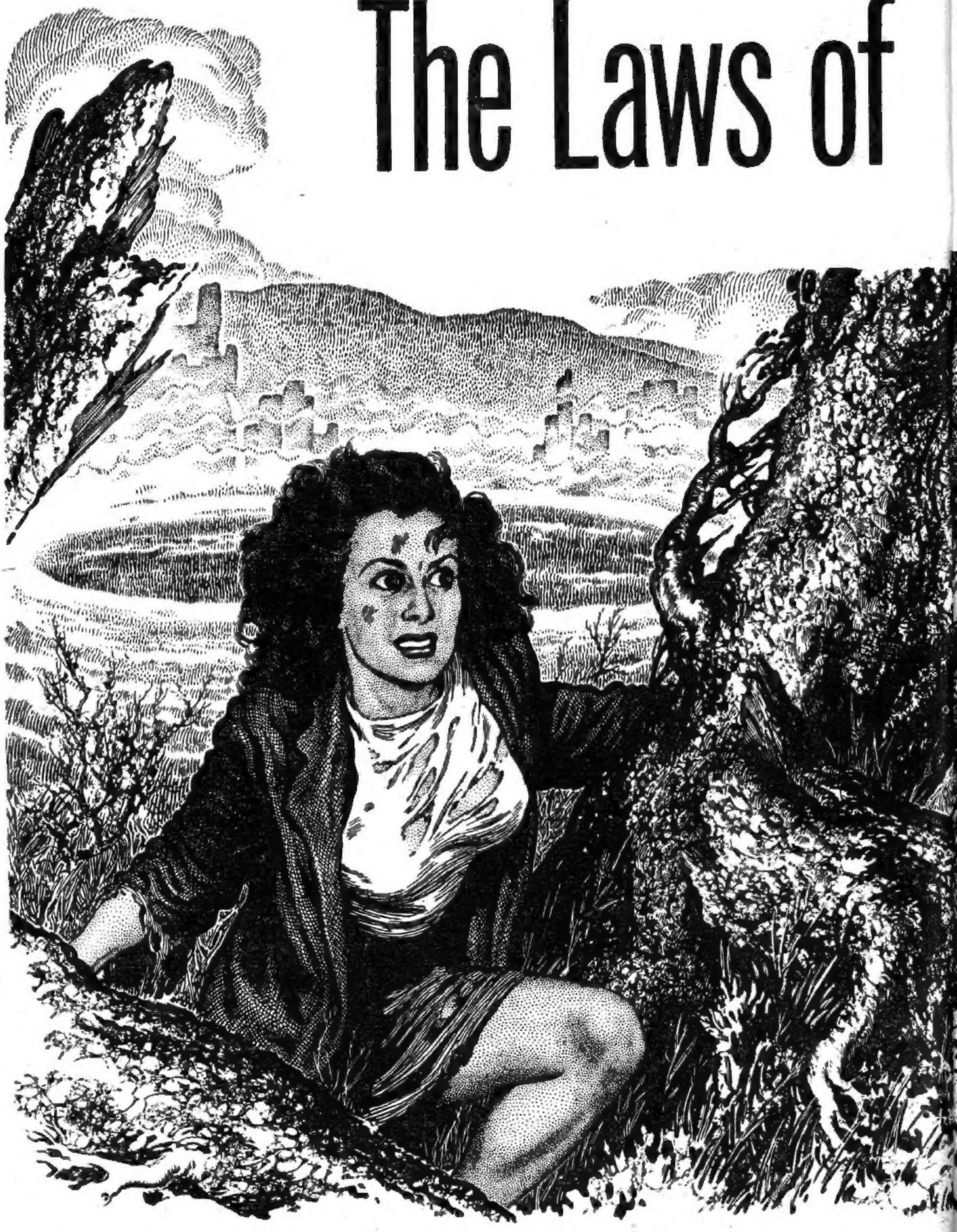
The Laws of



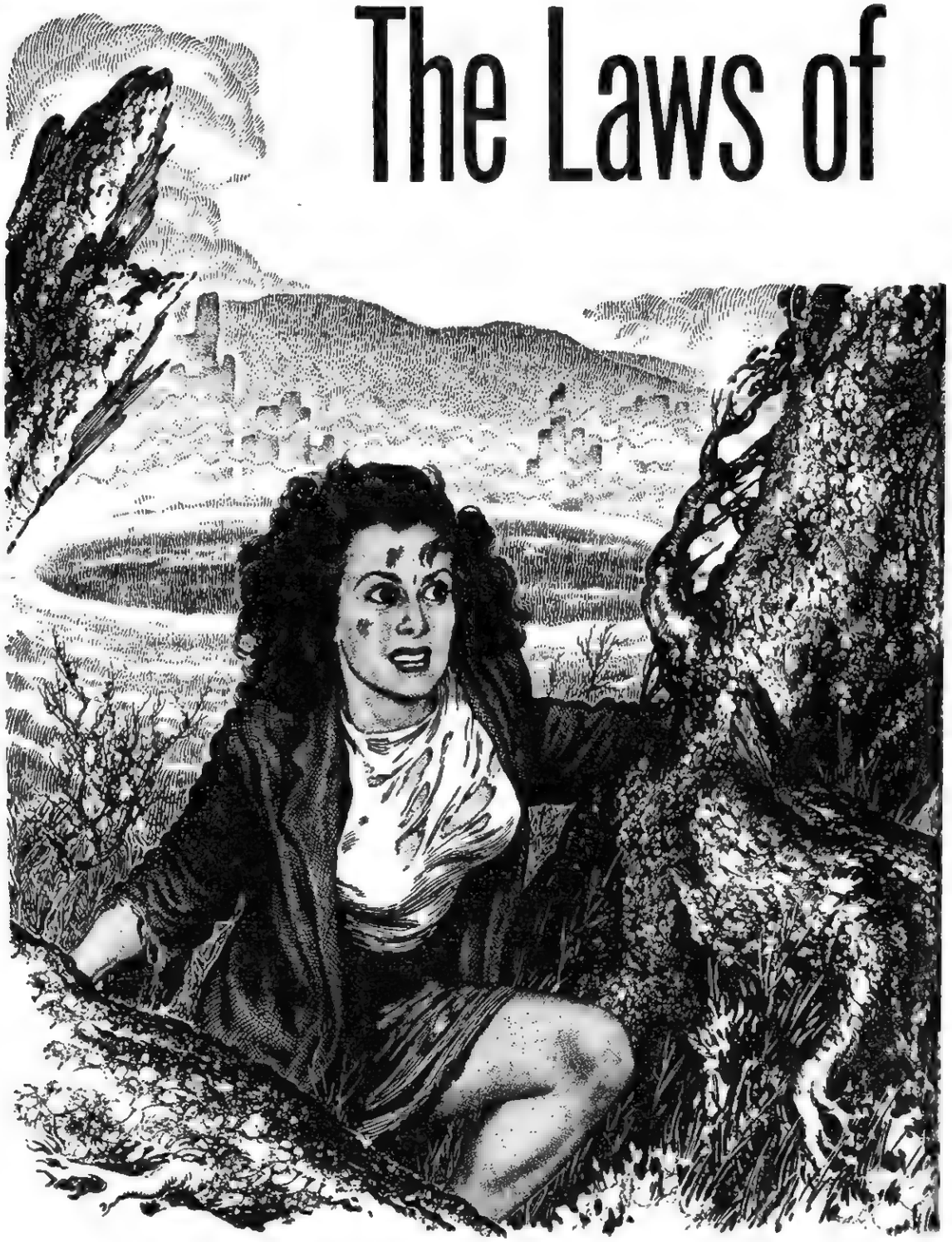
Everything had gone up in smoke—except

Steve's faith in science, and Fran's faith in Steve!

The Laws of Chance

A Novel by **MURRAY LEINSTER**

Illustrated by VIRGIL FINLAY



Everything had gone up in smoke—except

Steve's faith in science, and Fran's faith in Steve!

I

STEVE SIMS, former Professor of Physics at Thomas University, delicately pushed aside a brushy tree branch and looked down to where the little town had been. It wasn't there any longer. But there wasn't a single monstrous atomic-bomb crater, as he might have expected. Half a dozen relatively small craters—no more than two to three hundred feet across—had obliterated a

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Chance

A Novel by MURRAY LEINSTER

Illustrated by VIRGIL FINLAY

I

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third of the town entirely and flattened all the rest. Then there'd been a fire. There was nothing left.

He regarded it with less shock than with grim regret. This had been his home town. He'd spent a long time making his way to it from the vicinity of Thomas University, after there was no longer any hope there. He'd waited nearly four months, in the rapidly-appearing wasteland on the edge of the campus, hoping against hope for someone like himself to turn up able to help him on the work he still believed might partly repair the world catastrophe.

After there was no more chance there, it had taken him three months to get here—four hundred miles. There'd been interludes, of course. Once he stopped and joined a group who called themselves guerillas. Before he left them he'd killed a man in cold blood, an act he still remembered with satisfaction.

Then he'd had to hide from his late companions, and then he'd stayed on at a tiny community where the people were uninformed but resolute—too resolute entirely—and now he'd reached his home town and it was a desolate waste.

"Let's go out and cut our throats," said young ex-professor Sims to no one in particular.

It was a quotation, and he grimaced wryly to himself. He squatted down to watch the area of blackened debris which had been the scene of his childhood.

Since the bombs began to fall, like everybody else he'd learned that it didn't pay to take things for granted, or to be unduly brave, or too frank about yourself, or anything which had been normal and excusable as little as a year ago. So Steve—no longer professor because there weren't any colleges or students left—Steve Sims squatted close to the trunk of a tree and attentively regarded the ruins of his home town.

It was utterly dead and completely uninhabitable. It must have been destroyed a long time ago, because green things were already growing between the fire-blackened timbers where the town was merely flattened and burned out.

There was a greenish scum on the ponds at the bottoms of the bomb-craters, too, which proved that this was a high-explosive job, not atomic. And that proved that They — the people with bombs and planes—hadn't an unlimited supply of the atomic bombs which melted the surface of the ground to a sort of crackled, glassy substance which was dangerously radioactive.

Nothing like that was visible here. So if they used ordinary high explosives to flatten a small town, their stock of atomics was limited.

THAT was good. Steve recognized it as good, and then he wondered why he thought it was good. Whoever They were—and all of civilization had been smashed, and nobody knew who had started it—They couldn't be touched by people like Steve. The atomic war had degenerated into an indiscriminate, hysterical mass slaughter of everybody by everybody else.

Steve was a wanderer, like most of the people left alive. He was homeless, and his only possessions were a very small lady's automatic pistol, with only two clips of cartridges, a pair of fencing foils with the buttons broken off and the blades filed to needle-sharp points, one blanket—plasticoated on one side so it was water-proof—six children's copybooks nearly filled with writing, and one-half of a roasted chicken. He'd stolen the chicken two days before.

"The obvious thing," he repeated presently, "is to go out and cut my throat. But—"

He paused.

"Oh-oh!" he said next.

There was a movement in the debris. An infinitely cautious movement. For an instant he couldn't make it out, and then he saw a small figure crawl out from under an indescribable mess that looked like a heap of oversized black jackstraws. The figure looked about in a hunted manner, seemed to listen fear-

fully, and then came scrambling over the wreckage in Steve's general direction. It moved with frenzied haste.

Steve watched, immobile. When somebody ran away, there was usually somebody else after them. It was not the business of a mere Wanderer to interfere. Especially, perhaps, not the business of a former professor of physics with six child's copybooks full of a partly written treatise on "The Paradox of Indeterminacy." But the discovery of his home town in ruins had pretty well removed that last reason for non-interference.

Still, he watched without any movement. The small figure scrambled over a tumbled heap of bricks. Something loose rolled down and other shattered stuff followed. There was a miniature landslide and a cloud of white dust arose.

"That's bad!" said Steve.

The figure raced on. It was very small and pantingly in haste. It seemed filled with desperation. But it was the only moving thing in sight except a lazily soaring buzzard, flying in tranquil circles in the sky.

Except for the buzzard it was the only moving thing in sight. Then another figure stirred. This one appeared in the shoulder-high weeds which grew everywhere over what had been cleared land around the edge of town. The second was a larger figure. It moved swiftly to cut off the smaller one.

Steve watched. It was none of his business. The world was in ruins. There was no law. There was no government. There was no hope. So he could see no reason for him to risk his life interfering between two unknown persons, one fleeing and one pursuing. But on the other hand there was no longer any special reason to be careful of his life.

The smaller figure gained. It came to what had been a street, where the blast of the nearest bomb had blown straight along its length. Trees had fallen, but there was little wreckage. For two hundred yards the running small figure fled without hindrance, unseen by its pursuer and not seeing him. Then it stumbled and fell headlong, and scrambled to its feet and fled again. But now long hair tumbled about its shoulders and streamed behind.

"The devil!" said Steve Sims, in disgust. He rose smoothly to his feet, slid the pack from his back, and pulled out one of the fencing-foils. He ran lightly through the trees, vexed, arguing with himself that this sort of thing happened too often for him to be responsible, that he might have to use a highly precious cartridge, that he might get killed, and generally assuring himself that he was a damn fool.

Winning Streak....

THE elusive Lady Luck has been the inspiration for more novels—and more systems designed to win her favors—than all the raving beauties of history. Men have employed every trick and stratagem to snare her, from astrology to calculus and from roulette to dog races. But if luck be indeed a tangible factor in men's lives, science may yet one day show us why things break right for some men and not for others. Our Mr. Leinster, in this classic from SS, takes a tantalizing dip into the possible and probables, which you'll enjoy.

—The Editor

IT WAS almost a quarter-mile before he really saw either of the two figures again. Then he reached a spot where he could look through the trees again upon the town. Much had happened. The girl had discovered her pursuer. He was almost upon her. Somewhere and somehow she had snatched up a splintered bit of wood.

As Steve reached the woods' edge the man snarled and plunged to seize her. She flailed the stick around in a typically feminine desperate sweep, without accuracy and without real force. He flung up his arm and the stick broke against it. But then he roared and plucked blindly at his eyes while she gasped and darted for the wood, her wild tresses fluttering behind like yacht pennants billowing in the winds of a happier day.

Bellowing, the man raced after her. He'd been dust-blinded only for a moment. She was barely ten yards before him when she dived between the first trees. There was utter horror upon her face when Steve appeared before her. But he jerked his thumb to one side.

"That way," he said sharply.

She swerved and fled like a desperate deer. Steve stepped into the line she'd swerved from. The pursuer, raging, plunged into the woods.

He saw Steve and roared again. He charged.

And Steve brought up the needle-sharp foil and he ran right upon it, up to the very hilt, so that there was a sickening impact against the hard guard. Steve simply stepped aside and let him crash to the ground. He did not move after he had fallen.

Some five minutes later, Steve cleaned the foil painstakingly. There had been tobacco in the dead man's pockets, and he'd had a rusty knife, and a flask of poisonously vile liquor. Also there were four diamond rings and a child's necklace. Somehow the child's necklace removed any distaste Steve might otherwise have felt for what he had done.

He straightened up and tossed aside the leaves on which he'd cleaned the foil. Then there was a faint stirring. The girl's voice came shakily, although she remained invisible.

"Th-thanks," she said.

"Don't mention it," said Steve. He paused, and added, "I split my loot. You may need this."

He tossed the knife from the dead man's pockets in her general direction. Leaves stirred. She came into view. She picked up the knife. She was smudged all over with the charcoal of the timbers in which she had hidden, but she was pretty. He regarded her detachedly. She wiped off her face with the sleeve of the man's coat she wore.

"Also, you might like these," said Steve. "He had them. I'm not a professional assassin and I don't like to take jewelry. Can you use them?"

He held out the rings and necklace. She searched his face with a hunted expression on her own.

"I'll put them down and walk away," he said drily. "Seriously, you might be able to use them for barter. People want odd things, these days."

She took a deep breath and moved forward.

"N-no," she said, breathing fast. "I'm —not afraid of you. You—you did that." She looked down at the dead man and swallowed. "He was horrible! Have you anybody else with you?"

"I'm a lone wolf," Sims said. "No, I take part of that back. I'm not a wolf. Just alone. How about you? Friends? Is there some place you can go and be safe? I'll try to take you there if you like."

She swallowed again, and then shook her head. She looked at him appealingly. He weighed the situation. In the last seven months the ordinary, everyday world they had known had crashed about them in shattered and twisted fragments.

FOR a man to stay alive alone was difficult enough. Also, there were the implications of that work on the "Para-

dox of Indeterminacy," which was either sheer nonsense or very much more important than the life or safety of any one girl, even though she looked as frightened or as desperately appealing as this one.

"I've got half a chicken, very badly roasted, about a quarter of a mile away," Steve said without warmth. "I can offer you part of it. In my wandering around I've found one or two communities that are hanging together after a fashion. I'll help you try to find one that will let you join them if you want me to. I'm afraid that's about all I can do, though."

She gasped:

"P-please!"

He did not like to see such gratitude for so problematic a benefit. He turned and walked away. After half a dozen paces he looked back, and she was following. She wiped her eyes with the sleeve of that man's absurd coat. He went on, scowling. Nobody knew who'd started the atomic war of which this girl, and he, and the dead man left casually back in the woods were all casualties, in common with most of the human race.

Nobody knew whether it was ended or not. There was civilization of a sort maintaining itself somewhere; that was certain. But what was really positive was that there was no hope for anything but a wandering, wild animal life for the few who survived and were not members of the small and embattled communities of farmers who fought ferociously to keep their own membership alive. Steve himself had not an ounce of fat left on him. The girl looked hungry.

He reached his pack and slipped it over his shoulders, and then let it slip down again. He took out the half-chicken and handed it to her. Her lips moved hungrily.

"You said this was all," she said.

"Half a chicken for you, and half for me," he said untruthfully. "Go on and eat it!"

With a sharp little intake of breath, she did. She was starving, but even so she did not gobble. In the months since the bombs began to fall, he'd seen a great many human beings deteriorate to the level of animals. She hadn't. He watched until she had devoured the last morsel of the half-chicken. She was still human. She smiled at him apologetically.

"I was greedy," she said ruefully, "but it was so good! What now?"

He debated. No supper for him. No shelter. A girl to look after, and the paradox of indeterminacy a completely hopeless effort since his home town was smashed and the only man who could have offered a fresh viewpoint, which he needed badly, was doubtlessly dead in its ruins.

"What's your name?" he asked mildly.

"Frances." She looked at him expectantly.

"Listen, Frances," he said detachedly. "What say we go out and cut our throats?"

II

AFTER it grew dark they talked quietly. Steve made a camp of sorts, a mile and a half from the place where he'd first seen Frances. Its basis was the trunk of a monster seed-tree that had crashed to earth in a thicket of its second-growth descendants. It meant a supply of rotted, punky wood which would make a flameless, smokeless fire, and the trunk was raised above the ground for part of its length so the fire could be built under it and be invisible from the sky.

On the way to that place the girl had spotted blackberry bushes and gathered a comforting supply. And after Steve had walled in one side of the tree-trunk with leafy branches, and drawn down his blanket over the other, they ate the blackberries, stumbled through the new-fallen darkness to a nearby brook and drank, and returned to the encampment.

"You can choose your half of the shelter, and fix your bunk of leaves," said Steve. "I'll take the other half and we'll

have the fire between us instead of a sword. And a few leaves on the coals from time to time will keep insects away."

"You didn't tell the truth about the chicken," the girl said suddenly. "You let me eat it all!"

"I'm full of berries anyhow," Steve assured her. "If you want to go to sleep, go ahead. I'm going to write a little."

They were in the cramped and improbable shelter. Frances blinked at him in the absurd dim glow that came from the coals.

"Write?"

"A masterwork," said Steve in conscious irony. "A treatise on the Paradox of Indeterminacy. It is possibly a triumph of logic and theoretic physics, but it is certainly the most futile thing that anybody ever worked his head off at."

He grinned mirthlessly at her across the glow from the smoldering rotted wood.

"In the old days alchemists were frequently thwarted by the fact that their chemicals wouldn't do what they wanted them to. So they talked of affinities and caloric and phlogiston and various other things that didn't exist. They were excuses. We modern physicists have been thwarted by the fact that our experiments didn't work as we wanted them to, either.

"When you get down to a few thousand atoms or electrons or whatnot, your experiments begin to go haywire. You can predict how a billion atoms or electrons will behave, but you can't know what a hundred of the elusive things will do.

"So we began to talk about indeterminacy. When you're working with such small numbers of objects that the laws of chance come into play, your results are governed by the laws of chance rather than the ordinary laws of physics.

The result is indeterminacy. That's an excuse, too."

FRANCES listened to all this gravely. There was still a smudge on her cheek from the charcoal of the ruined town. She'd washed at the brook, but that hadn't come off. Steve went on with ironic detail:

"So I began to question the laws of chance. All the other physical laws we know explain how forces act. We can identify the forces—electric charges and the like. Maybe the laws of chance explain how forces act, too, but we've never identified any forces to fill the bill. I've worked up some clues. I've imagined and described some forces that would operate to make heads come up a thousand times in succession, if applied that way.

"But I haven't the least idea how they could be generated or detected, unless you consider that Rhine detected them in his psychokinetic experiments. I'm in the position of a man who had imagined electricity on theoretic grounds, but had never heard of it and didn't know how to generate or detect it. He just knew there must be such a thing and that if he could get hold of it he could go to town."

Then Steve shrugged.

"*Mm-mmmmmm*, you could win at any card game," the girl said "You could make anything happen that was even faintly possible. Is that it?"

Steve jumped. He had talked with deliberate irony, because the last man on earth he'd hoped, and that only faintly, could understand his reasoning and help him carry it farther was undoubtedly dead in the wreckage of the town two miles away.

The man in question had been a putterer and a visionary who was more or less responsible for the fact that Steve had been a professor of physics. The loss of the last hope of another mind to work with him had been a blow. But this girl hadn't listened blankly! She'd understood!

"My father'd have liked that idea," she added, after a moment. "He'd have loved it! He was killed when the town

was bombed." She nodded calmly. "I was away then. I came back on foot because the gasoline had already given out. The town was gone when I got here."

Steve blinked. Then, tentatively, he said a name. The girl stared at him.

"That was my father! You—"

"I'm Steve Sims," he said wryly. "Maybe you've heard of me. I know you now! You were twelve years old when I went off to college. How do you do?"

They looked at each other across the double-cupful of embers on which Steve put leaves, for smoke, every now and then. Then the girl's drawn look relaxed.

"This is—nice!" she said unsteadily. "Of course! You used to write to my father sometimes! It's like—it's like finding one's family again!"

She blinked to keep back tears, and impulsively reached over to grasp his two hands in hers.

"It doesn't take much to make some people happy," he said gruffly. "How'd you manage to live this long?"

SHE told him, in the shelter which smelled of leaf-mold and smoke and dampness. The town was wreckage when she returned to it. She'd had an ancient aunt living in a now shattered cottage on the edge of town. The old lady had quite incredibly survived the bombing, and indomitably had taken possession of a sawmill-shed beyond the town's limits. Frances had found her.

The two women—the one so old and feeble and therefore helpless in adversity, and the other so young and therefore in deadly danger as civilization ceased to be—the two women kept themselves alive. They gathered crops from fields whose owners had been killed by the strafing planes which followed the bombers. They stored food and lost it to plundering Wanderers from whom they hid.

The aunt had died two weeks back. Frances found her shot dead. There was no explanation and no cause for it. She was simply shot. Frances knew of no person or any community she dared attempt to join. Three days since, a group of Wanderers—the restless displaced persons who roved everywhere like locusts, these days—had come upon her.

There were women in the band. At first Frances had hoped for safety with them, but one single day taught her better. Before nightfall she slipped away and hid. The women were glad of her going, but some of the men hunted her. One had been close at her heels when she hid in the wreckage of the town. Steve had seen the rest. He'd killed that man.

"And then I suggested that we go out and cut our throats," said Steve. "Which still seems as good an idea as any."

He put leaves on the fire. Smoke filled the shelter, to drive away mosquitos. But Frances smiled at him.

"I want to give you something back," she said quietly. "I don't need it now. Here!"

He was fumbling in his pocket, but he looked. She offered him the rusty knife he'd taken from the dead man's pocket.

"I don't need it any more," she repeated. She smiled, but there were tears in her eyes.

Steve grunted. He took the knife, but he put something else in her hand. It was the small automatic and the bullets which had been his greatest treasure.

"It's not enough," he growled. "Not if there are Wanderers around, and they're that kind of Wanderers. You keep this handy, but for Heaven's sake don't waste the bullets! There simply aren't any more!" Then he added firmly, "It's better for you to have it, because in case of trouble we're both in, they'll be watching me for surprises like that, and you'll have a better chance to make good use of it."

She hesitated, and he reached over and dropped it gingerly in her coat pocket.

"Now go to sleep!" he commanded. "I want to get to work!"

She obeyed him to the extent of curling up on the bed of leaves. But her

eyes stayed open, watching him. He scowled at the tiny bed of coals. This was bad! Existence had been precarious enough with only himself to worry about.

It would have been worse with a girl to whom he felt no obligation, and whom he might be able to place with some grimly defensive group of farmers' families banded together against those who called themselves guerillas, and those who simply looted without excuse. But a girl he knew, whose father had started him off by interesting him in physics. . . .

AFTER a long, long, time, during which he did not even open a copybook to write in it, she spoke softly.

"I've thought of something, Steve," she said. "In that bunch of Wanderers there was one man who didn't seem to be really bad. I think he'd have protected me. But the others frightened me so. . . ."

Steve grunted. He'd take her away from this locality tomorrow. Somewhere. There had to be some plan he could make, but there was nothing to plan with and nothing to plan for. Civilization was smashed.

The world was headed for barbarism unless some nation, somewhere, had improbably succeeded in keeping itself intact while the rest of the world went headlong toward destruction. And if one nation retained its civilization, the odds were that it would eventually enslave the survivors of all the rest. No, there was nothing to plan for.

"But mostly I mention him," said Frances, her eyes very large in the nearly complete darkness, "because maybe he could help you. He says his name is Lucky Connors. He says his luck is foolproof. He says he's never missed a meal since the bombs fell, and he's never had a bad break, and—well—the other Wanderers wouldn't play cards or anything with him, because he always wins. He is phenomenally lucky, Steve! If you could find out what makes him that way—"

"That's what you call a series," said Steve ungraciously. "It's a sequence of unlikely happenings. It may be of any length, even infinite. He may be in such a series. Those things gave me the clue I had."

The girl was silent, her eyelids drooped. Presently — half-asleep — she woke with a start and looked about her in terror. Then she looked pleadingly at Steve.

"I—started to dream you'd gone away and left me," she told him apologetically. "Would you—mind holding my hand until I'm asleep? It's been—pretty terrible, Steve."

He reached over and took her hand in his. It was small and it had been very soft. There were work-worn places on it now. He held it gently fast. She relaxed. She dozed off, and opened her eyes again and saw him still close by, and smiled sleepily and drew a deep breath. Then she suddenly went off into the slumber of complete security and weariness.

Steve swore under his breath. He sat very still so she could rest.

Half an hour later he heard sounds which did not belong in the night. Thrashing noises. They stopped, and began again. Something was moving about in the darkness. It was close by. It was coming closer.

Steve wriggled out from the shelter he'd contrived. He crouched down in the shadow of the giant tree he'd utilized as a ridge-pole. He had one of the sharp-pointed foils ready in his hand. He listened with all his ears.

Something drew closer still. Presently he could see it as a moving bulk amid the lesser shapes of tree trunks. It was human. It stopped, and sniffed, and he knew how the shelter had been found. By the smell of the leaf-smoke he'd made to drive away insects.

The figure moved forward again. Steve tensed. There could be no friendly human being, and he had the girl to protect. The figure shifted something it carried, and Steve saw starlight, filtered through the trees, glint upon polished

metal. The other man stopped, and stared specifically at the shelter, and moved cautiously toward it. The gun-barrel moved to a readier angle.

Steve lunged, quickly and expertly and silently. The needlepoint of his foil slid smoothly forward.

It stopped. With the impetus of the lunge behind it, the slender foil bent double and the figure whirled with a grunt of pain, and there was a lurid corruscation of light and the feel of a terrific blow.

Steve felt vaguely that he was falling, before he ceased to know anything at all.

III

FROM a vast distance he heard a voice speaking in reassuring tones. "Hey, quit crying, Frances," it said. "He's gonna be okay! I ain't had a bad break yet."

Then Steve became aware of his body's existence. He was lying on his back, with a bit of fallen branch sticking into his flesh. Then he knew that his head ached. Horribly. He opened his eyes and saw leafy branches and twinkling stars between them.

"My luck's holding," repeated the confident voice. "Didn't that sticker of his bend itself all up on my rib? What's the odds against that, Frances?"

Steve heard the girl crying quietly.

"After all, I woulda shot him," the man's voice went on persuasively. "But instead, when I swung around my gun-barrel slammed him on the head. So that makes it right! He'll have a headache. And I got a hole in my skin that stings like blazes. All even! I've been pullin' for somebody to explain my luck to me and kinda show me how to use it. I got a hunch he's the guy who can do it!"

Steve's brain went round and round in his skull. Nothing made sense. Then, abruptly, it fitted together into something like lunacy.

It must be "Lucky" Connors! The man with the wandering band from which Frances had hidden—the one who always won! Frances had mentioned him saying Steve might use his experience to solve the paradox of the indeterminate.

"I guess you're right," said Steve painfully. "About the headache, anyhow."

He stirred. Frances made a gasping exclamation and bent over him eagerly. Even in the dim starlight he saw the expression of unbelieving joy upon her face.

"Of course, though, I may simply be crazy," he said dizzily. "Tell you in a minute or two."

He managed to sit up. The man he had tried so painfully to kill—silently and without warning, as it was necessary to kill, these days—regarded him without enmity.

"Me, I'm Lucky Connors," said the stranger amiably. "That sticker of yours was sharp enough, I figure, and it musta been at just the right angle, to stick a little way into my rib and bend, instead of sliding off and goin' on through me. Lucky, huh?"

"Lucky," conceded Steve. This was completely insane. The man was completely devoid of either anger or of triumph. In fact, he had leaned a perfectly good rifle against the fallen tree which was the shelter, and seemed to be taking no care of his life at all.

"It's like this," said the other man eagerly. "I got luck. Whatever I pull for, seems to happen. When Frances ducked away from the gang I was with, I pulled for luck to go with her. She's a good kid. And I've been pullin' for somebody to help me figure out what I can do with this luck I got. I don't understand it, but I figure it's something that could do a lotta good if it was handled right. You get me?"

"It's a series," said Steve. He put his hands to his head. "Gosh, this is crazy! Didn't we try to kill each other just now?"

"Uh-huh," said Connors placidly. "But we didn't. That's my kinda luck. D'you

know anything about that stuff?"

"Yes!" said Frances eagerly. "He knows just what you want to find out, Lucky! And you—I told him not long ago that you could help him! It's the paradox of indeterminacy! It's—"

STEVE held his head in his hands while it throbbed. He honestly doubted his own sanity. By all the laws of probability either he or this intruder should have been very dead, by now, and failing that by all the rules of human conduct, they should be at each other's throats. But, quite impossibly, they were both alive, through a sequence of improbabilities that couldn't happen once in a million years.

Frances talked quickly. He heard his own explanation of indeterminacy rephrased much more simply than he had put it. And then Frances went on to explain urgently that Steve had figured out some forces that would cause luck to be what one wanted it to be, only he didn't yet know how to generate those forces or to detect them.

It was stark lunacy, there in a second-growth thicket by the site of a bombed-out town, with no law and no civilization and no hope for anything in the future, within a few minutes of a mutually attempted assassination.

An abstract discussion of probability at such a time and place was simply not one of the things that happen! And yet it had—the laws of chance? Or something else. . . .

Steve's head throbbed horribly. "I got it!" said Lucky Connors in the darkness. "He's the guy I've been looking for, all right! Listen, fella! We'll talk in the morning. You got a headache. So you go get some shut-eye. My rib aches where you stuck it, and I ain't sleepy anyhow. I'll poke around and set some rabbit-snares and we'll talk things over while we eat breakfast. Right?"

Steve expostulated in one last protest for the normal.

"How'll you see to set snares? This is awful! I'm crazy or something!"

"It ain't you that's cracked," said Lucky Connors comfortably. "It's the facts. Listen! I got enough string for three snares. If I got three rabbits in the morning you'll know I'm right, huh?" He did not wait for an answer. He stood up briskly. "Okay. You go get some sleep. I'll be around in case of trouble. But I'm pulling that there won't be any."

He moved away, and Steve stared dizzily after him. Frances took his hand and urged him to rest. She seemed extraordinarily encouraged. Which, Steve found himself thinking absurdly, would be luck for Lucky Connors, for Frances to feel happier and more secure when he was around.

IT WAS all impossible. Too impossible. But his head ached. He crawled back to the shelter and held his head over the heat of the few remaining coals. The heat stung the raw place where the rifle-barrel had hit, but somehow it soothed the headache. He grew sleepy. He lay down. Suddenly he slept.

He woke to the sound of movement outside, and instinctively reached for weapons. Then Frances disentangled her fingers from his and smiled at him.

"That's Lucky," she said confidently.

Steve went out. A bearded, stocky figure was cleaning the last of three rabbits. He nodded to Steve.

"Mornin'," he said cordially. "I got three, like I said."

He held up the rabbits.

They ate breakfast, a rabbit apiece, cooked over Steve's revived small fire. As they ate, they talked—or Lucky did.

"Y'see, I been pulling for somebody to explain this business, and I been thinking," he said earnestly. "What Frances said checks up. You claim there's some kinda force, like electricity, maybe, that decides what things happen—like chemistry decides whether things will burn or not. Rock won't burn. Wood will. That's chemistry. You can't throw a seven every time shootin' crap. That's kinda like what you're talking about.

Only if you knew what kinda force makes seven come up sometimes, you could make it show every time. Right?"

Steve nodded wearily. All this sequence of improbabilities seemed to him to hint at the verification of indeterminacy. For that exact reason, he suddenly felt a hopeless doubt of their validity. Theories like that shouldn't be proved by eccentrics like Lucky Connors. It wasn't the scientific method. One should know what one was about!

"Okay," said Lucky Connors. He drew a deep breath. "I got something that works that way. This is it."

He fumbled inside his shirt, and Steve noticed the bloodstain where his foil had punctured it and—it was still impossible—stuck fast on Lucky's rib instead of killing him. Lucky brought out a curious lump of some glassy substance,

Lucky brought out a curious lump of some glassy substance, handled it with an assumed carelessness

covered with minute crackles. He handled it with what was patently assumed carelessness.

"A talisman, eh?" said Steve.

"I dunno what it is," admitted Lucky. "I come on a place where a bomb went off. It was a whale of a big crater, a couple miles across. And it had a funny kinda smell to it. You know?"

"I- know," agreed Steve grimly. "They're good places to stay away from. When they smell, that's ozone, and the place is plenty radioactive."

Lucky made a gesture, indicating his indifference.

"Yeah? I didn't know that. This was where there'd been a city, and right close to the edge of the crater there was some lumps in the ground under that glassy stuff the bombs make. It was like there'd been a concrete foundation to whatever'd been there, and it wasn't quite smashed or melted.

"I camped by the edge of the big hole, lookin' over the place and kinda thinkin' about the people that'd been in the city when the bombs struck. When it got dark there was little misty lights down in the bomb crater. It looked spooky. But down behind those lumps that mighta been concrete foundations, there was a bright spot that didn't look like the rest.

"It was a spot of kinda purplish-greenish light. Real bright. And I went over to it—it wasn't far in the crater—and it stayed put. Then I dug it out. It still shines in the dark. I keep it covered up so's people won't notice."

LUCKY put the stone from the crater into Steve's hand. And Steve stared at it and held it up to the light, and then examined it minutely.

"Well?" said Steve at last.

"It was interesting," said Lucky Connors. "I looked at it. But I was hungry. I set there holdin' this thing in my hand and I says to myself, 'This is pretty, but I wish I had something to eat.' And the thing felt kinda warm all of a sudden. It warmed up considerable. I got interested wondering how come it turned warm like that, and then, *plop!* I heard something fall on the ground a little ways away.

"You ain't going to believe this, but when I went over there, there was a big barn-owl flapping around like he was looking for something he dropped," Connors went on. "He'd tried to make off with a rabbit that was practically full-grown, and the rabbit had got loose somewhere up aloft and come plop down on the ground. With the fall and the owl, he was barely kicking when I found him. It was creepy! Me wishing I had something to eat, and this thing getting warm in my hands, and then *plop!* that rabbit falling outa the sky. It scared me to blazes and gone. But the rabbit sure tasted good! So—I figured the thing was like a lucky stone and I kept it and I had luck ever since."

"What you've got there—*hm!*" Steve said slowly. "It was a bit of yellow ore, once. Uranium ore, I'm guessing." He looked up suddenly. "The town was Chicago, eh?"

"Sure!" said Lucky. "How'd you know?"

"Uranium ore doesn't hang around everywhere," said Steve. "The south side of the ruins?"

"There ain't any ruins," Lucky told him. "But it was on the south side of where there'd be ruins if there was any."

"University of Chicago," said Steve. "Nuclear Research Laboratory. That's it!"

He felt Frances' eyes intent upon him. Lucky Connors grinned and nodded.

"I was pulling for somebody to explain it. What have I got?"

"Heaven knows!" said Steve grimly. "When you bombard uranium with a cyclotron, you get neptunium and plutonium. That happens in a laboratory. But this is uranium that was bombarded by an atom bomb, something a lot more powerful than a cyclotron!

"It's not neptunium or plutonium, obviously. It's something else, that's probably beyond either in atomic weight. It's

something quite new, I suspect. Something that couldn't be anticipated, and I'm fairly sure it couldn't be duplicated. But it's probably dangerous."

He handed back the odd bit of matter.

"I wouldn't carry it on my body if I were you," he said detachedly. "Sheathe it in lead, anyhow. Nobody can guess what it's like or what it will do. It couldn't be made in a laboratory because you can't bombard anything with an atom bomb and have anything left. But it happened here. I suspect pretty strongly that it's at least as active as radium, though probably in some different way. Better not carry it. A radioburn is bad business!"

"Not carry it?" Lucky Connors regarded the object, and then shrugged. "I ain't missed a meal or had a bad break since I had it. I pull for good luck for Frances and she gets it. I pull for a guy to explain it to me, and I meet you. I pull for three rabbits in three snares this morning, and I get 'em! And you tell me to throw it away!"

"They could all be coincidences," said Steve doggedly. "The improbable is a part of probabiltiy. Things as improbable as these—even a sequence of them—have to happen sometimes."

"Yeah?" said Lucky. "Do they have to happen to me?"

But the girl was obviously puzzled.

"You said something about a force that would make heads turn up a thousand times in succession if applied that way, Steve," Frances said quickly. "Maybe this generates that force. Maybe you'd better try it. You'll let him, Lucky?"

Lucky handed the object back to Steve.

"I pulled for it that he's a square guy," he said calmly. "If my luck holds, he'll play fair and give it back."

STEVE took the thing in his hands. He asked curt questions. You held it in your hand, said Lucky, and wished for something. Mostly it worked. Sometimes—occasionally—it didn't. That was when you wished for something that was impossible, like a glass of ice-cold beer. If what you wanted could happen by any conceivable accident, the thing would warm up. Sometimes it got fairly hot. If it warmed up, you knew that it had worked.

Steve held it in his hand. He frowned. His expression grew sheepish, but he concentrated doggedly. Then he stared sharply at the jagged thing in his hand. It had warmed perceptibly. It was hot! He dropped it with a sudden exclamation. A dried leaf, where it had fallen, suddenly turned browner, then black, and then sent up a thin, wispy curl of smoke.

"That was a tough one you gave it," said Lucky. "I never knew it to get that hot before!"

"If it works," said Steve, unbelieving but still staring at the scorched leaf, "I'll be raving crazy!"

Apparently, however, it didn't work. Nothing happened. Nothing at all. Minutes passed. Frances gazed all about her. She listened and she looked. Steve was tense without knowing why. He had an explanation of how a lump of uranium ore bombarded by an atomic explosion might just possibly arrive at an insane condition in which it could generate the forces he'd imagined. But he didn't believe it would. He'd put it to a test, and he was enormously wrought up about it, but he assured himself grimly that it was all nonsense.

A quarter of an hour. Nothing. Then Steve could look at the new and quite crazy theory with something like regret. It was impossible, but it was so plausible! It wasn't scientific, to be sure, in one sense, but when you are dealing with the laws of probability, ordinary reasoning doesn't apply. All you can do is estimate your answers by statistics. One hundred per cent positive reaction would violate all—

There was a noise overhead. A thin whistling sound. It grew nearer and louder and rose in pitch. It became a

scream; a shriek.

Then something flashed down out of the sky nearby. It was not a bomb, but one instantaneous glimpse of it proved it to be bright metal. It hit nearby. It smashed into trees a quarter-mile away, created a monstrous tearing noise and a stupendous crash. Then there was silence.

Steve went deathly white.

"It worked. all right," he said through stiff lips. "Let's get away from here! Fast!"

IV

THINGS looked good. They looked amazingly good. Steve had considered that the most improbable of all possible events would be the crash-landing of a plane—one of those planes which groundlings never saw, but which now and again dropped death out of utterly empty sky wherever traces of surviving or reviving civilization appeared.

Somewhere there was civilization which was intent upon the destruction of all rival civilization. But in seven months Steve knew of only one other plane that had actually been seen, and the place from which it was sighted was now a bomb-crater. So in wishing, or "pulling for," the crash-landing of a plane which was not to explode and whose radio was to have failed before its fall began, Steve assuredly put the crater stone to a brutally savage test.

Thrashing away through brush and occasional blessed pine woods where one could move swiftly, he knew that every stipulation of his wish had been met. A plane had fallen. They'd seen it. It had crash-landed. They'd heard it. It had not exploded, because they were still alive. Even its radio must have gone out before its fall, because there was no hovering specks above the scene of the crash even an hour later.

It was in fact, three full hours before his searching of the sky showed something monstrous and mechanical settling down out of midair to the scene of the plane-wreck. Other flying things soared nearby. But by that time the trio was ten miles away.

"It worked," he told his two companions. "In every detail. I was a fool to pick that for a test, though. Too dangerous for us. They'll be checking over the wreckage now, to see if it was an accident, or if somebody on the ground managed to do something to cause it."

"They?" said Frances. "Who?"

"How would I know who!" said Steve savagely. "The people who started bombs to falling. Maybe people who wiped out the ones who started it. But people who drop bombs now!"

The large mechanical thing had landed among the trees in which the plane had crashed.

"They'll pick up the wreck," he went on grimly. "If they're sure it was just an accident, they'll blast the place it occupied so there'll be nothing to encourage us groundlings with the idea that their planes can have accidents. If they think we used some weapon, they'll strafe this whole area. But I think they'll call it an accident. In a sense, it was. A coincidence. An improbable happening. Something like heads coming up a thousand times in succession."

They were on the slope of a small hill ten miles distant from their late stopping-place. The plans soaring above the wreck began to move in wider circles.

"Into the woods—quick!" snapped Steve.

They dived into undergrowth under trees. They toiled on where leaves were so thick that the sky overhead was blotted out.

HALF an hour later they heard a drum-fire of explosions—of boomings which sounded like the deepest possible bass thunder. And Steve drew a breath of relief.

"They called it an accident and blew up the woods where it happened. They probably looked for tracks leading to it and didn't find any. That's luck, all right! But I wasn't too bright, bring-

ing down a plane. We could all have gotten killed."

"No," said Lucky Connors comfortably. "I been pulling we won't."

Steve stared at him. Then he said soberly:

"Sense! I didn't think of that! If you ever lend me that crater-stone again, Lucky, I'll tell you what I have in mind before I try it. I agree that the thing works, now. There's nothing else to believe, and I think I know how."

"I'm waitin' to hear," said Lucky. "The thing bothers me! It seems kinda spooky, like that guy had a lamp and he rubbed it and a spook come and asked him what he wanted done and then went and done it."

"It's no Aladdin's lamp," insisted Steve. "It's perfectly rational. It's inevitable—but it's devilish hard to believe!"

They continued to move away from the scene of Steve's test of the enigmatic object. Frances toiled valiantly to keep up with them.

"Every normal happening in physics and chemistry," said Steve, "is a case of things seeking a lower energy-level, like water running downhill or two highly active chemicals combining to make an almost inactive compound. Cause and effect everywhere must be the same—happenings taking place to arrive at a lower energy-level. If I chop through a tree, though, I don't knock it down. It falls of itself. All I do is cut away the stuff that keeps it from falling. In the same way, when a ship is launched, one man with an axe can knock away the prop that holds a ten-thousand-ton ship from sliding overboard."

"You sure knocked something down outa the sky," said Lucky with a grin.

"I don't think so," said Steve. "I think I just greased the skids for it to fall. Wherever there's a possibility of a thing happening, there's a force acting to make it. Back in Nineteen-Forty-Four or Forty-Five Professor Rhine at Duke University proved that some people shooting crap can make dice come seven oftener than chance would allow. They just pull for it."

"Not thought energy, Steve!" protested Frances. "It isn't enough to do anything!"

"It built cities and civilizations," Steve reminded her. "And then it smashed them. My guess is that it's a sort of energy which does not affect matter directly, but only other energy. It controls other energy. And Lucky, here, has a step-up amplifier which increases its power to control. The stuff he's got is undoubtedly radioactive in one fashion or another. I think, though, that it's unstable in a fashion which is affected only by thought energy. Thought waves —call 'em that for lack of a better term —increase its activity. And it greases the skids for what you want to happen."

"Radioactive, huh?" Lucky asked as he grunted. "That's why it gets hot? Like radium?"

"Like an atom bomb," said Steve grimly. "Luckily, it's self-limiting. In effect, it amplifies your wishing, which makes what you want more likely. Suppose you're shooting crap and you pull for a seven. Your brain sets up a pattern which makes sevens come easier. But this stuff, affected by your thought, amplifies that pattern and pulls for sevens too. And it pulls harder than you can, and harder and harder—getting hot the while—until nothing but sevens *can* happen. And it's limited—"

"Steve, it only warms up if it's going to work," Frances said mildly, panting a little in her effort to keep up with him. "It doesn't stay warm."

"It warms while it's pulling. You can't pull for a seven after it's come. You can't will it to be daylight now. It *is* daylight. That thing can't pull for a seven after the seven is sure to happen —after it's bound to be a fact, in the space-time continuum. Apparently it can't pull for an impossibility, either.

"Lucky can't wish for ice-cold beer because there simply isn't any. That stuff is an amplifier which works only when it's tuned to a possibility. When

the possibility becomes a certainty, the tuning cuts off. But anything Lucky pulls for while he's got it, is going to happen if it conceivably can."

"I'm pulling for something now," said Lucky blandly. . . .

THEY had been climbing steadily for several minutes. They came to open space again. They stopped short, but looked out beyond the brushwood to where ground fell steeply away to one side. They were able to look far back and see a thinning, dark-brown dust-cloud where the flying things had circled. The last of those soaring motes seemed to aim itself at the sky. It went up and up and up, increasing its speed as it climbed. It vanished.

"Blast 'em!" snarled Steve suddenly. "They smashed us! We'll get 'em now! We'll get 'em! Their own bombs made the stuff that'll bring 'em down."

"I'm gonna look yonder," Lucky Connor said comfortably. "I been pulling for something special."

Here had been a winding mountain road. No wheeled vehicle had passed along it in months, now, and what had been a highway was a meandering trail of weeds and grasses. But Lucky was wading through those weeds toward a curious green mound where the woodland started up again. There was a curious glassy reflection from one place within it. He yanked at the vines which covered it.

It was a car, parked off the highway when its gasoline gave out. Its owner had never come back for it, but creeping green things had crawled over it and moulds infested it. When Lucky wrenched open a door, there was only mildew and decay within. The sheet-metal body was rusted and leprous. The upholstery was furry with mould.

Lucky grunted with disappointment and went to the back. He kicked off the rusted trunkback lock. He fumbled inside.

"It's okay," he said, beaming. "My luck still holds."

He brought out one fungus-covered object and then another. They were suitcases. But they were the plastic luggage that had only been on the market a scant two months before the atom bombs began to fall. Metal or leather would have perished long since. When Lucky kicked them open, though, their contents were intact. And there were whipcord slacks and a girl's corduroy jacket which Frances seized upon with shining eyes, and a pair of shoes she declared would fit her, and other feminine oddments. She darted to one side to don the new finery. The second suitcase yielded a steamer-rug and shirts, a shaving-kit, and a revolver with a box of shells.

"She's dollin' up," said Lucky, jovially. "You shave, guy, and get beautiful, too."

"Listen!" Steve said fiercely. "I want to use that crater-stone of yours and bring technically trained men together. I want to make it find us books and tools and fuel and the chemicals we'll need. Then we'll smash these people—whoever they are—who have planes and bombs and use them! Then we can again start to build up the civilization that's been smashed."

He was trembling with the fury of a man who has seen his whole world torn to bits and who at last feels that he has a chance to strike back.

"Just tell me when you wanna use it," said Lucky. He tapped his body where he kept the precious object. "It's all yours. But I better keep it meanwhile. You—uh—you might forget to use it to pull for the kinda breaks we need right along. Like—look at Frances, huh?"

FRANCES came back to them, radiant. The whipcord slacks and the corduroy jacket fitted her. She looked not only neat but smart. She'd combed her hair, with a comb from the suitcase. She'd used lipstick found in it. She was, for the first time since Steve had met her, filled with the precious feminine consciousness that she looked well.

But Steve hardly looked at her. A substance existed which had been made by the utterly uncontrollable violence of an atomic bomb. It was so sensitive that its rate of radioactive decay was controlled by thought-waves in its vicinity.

The long known, indirect effect of will upon matter was enormously increased by it. The paradox of indeterminacy had been resolved. Chance itself could be subdued to the purposes of men. He was filled with a grim exultation. He didn't notice Frances.

But she noticed that he didn't notice. Much of the radiance left her face. They went on. Nothing was said of a destination, but they would need food, presently. The way to find food was to keep on the move. At noontime they came upon an abandoned farm, its buildings ashes. But there was an orchard. Steve and Frances gathered fruit, and Lucky slipped away and came back triumphantly with two clucking, protesting chickens.

"It's a wonder the foxes ain't got 'em," he observed. "Or maybe it's just luck—huh?"

They ate. They went on . . . and on . . . and on. Toward sundown they saw the rusted tracks of a disused railroad. There were other signs that they were near what had been a city. They camped in a small structure which had been a tool shed for a track-maintenance crew.

After darkness had fallen, Steve held out his hand to Lucky. He hadn't seen Frances' first enormous satisfaction fade away as he seemed oblivious to her changed appearance. He'd spent most of the day planning, in absorbed, vengeful satisfaction, the use to which he would put the controller of chance.

"I'll use that crater-stone now, Lucky," he said.

"Wanna tell me how?" asked Lucky.

"Bring together trained men," said Steve. "Supply them with the materials to make and service planes. Smash the places where bombs and planes are based, and then start to build up civilization again. Bring law back. Bring back order and food and safety for everybody."

Quickly Lucky scanned Steve's face. Then he shrugged.

"Go ahead and try," he said drily. "If it was luck that broke down civilization, maybe luck could build it up again. But I think you're missing something, fella. The bombs smashed the cities, but if folks had wanted to keep law and order and such, they coulda done it.

"Some places they wanted to, and they did—for a while. But this thing, it won't change people. The way people are ain't a accident, and no accident or any luck will make 'em something else. I tried to make the gang Frances seen me with act different, but it didn't work. But you go ahead and try."

"I'll manage!" said Steve.

HE TOOK the small object and went confidently outside. In the outer dark it shone brightly with a greenish-purplish light. It seemed alive. He stood in a warm and starlighted summer night. There were the innumerable noises of night things in full voice; insects whirring and clicking, and the occasional cry of a nightbird, and somewhere close and very loud the croaking chorus of bullfrogs in a swampy place. They were loudest of all.

The other sounds could only be heard through the frog tumult. He was absolutely confident that he had in his hands all the power that was needed to remake the world. He had control of chance! He could control the accidental and the irrelevant!

The power of a single human will to control other forces had been proven long before, of course. The most careful scrutiny of Rhine's results, and their duplication elsewhere, had made it certain that dice and coils do not fall quite at random when the human will intervenes, though the amount of energy applied as thought had always been too minute to be measured or even detected save in the statistics of its results.

But Steve had brought down an aero-

plane from the stratosphere with the crater-stone in his hand. He'd seen it grow unbearably hot from the mere waste energy of its action. He had the power of millions of wills in his hand—perhaps billions.

He thought, in grim carefulness, of the things he wished to have happen that civilization might return. He had no doubt at all. Not even of his own wisdom. He pictured what he wished to occur, and knew that as his wish became certain to occur, the thing in his hand would grow warmer and warmer and warmer. He thought vengefully, and waited for the heat which would tell him that his thought would come to pass.

An hour after he had begun, he stumbled back inside the little shed. Frances had been dozing wearily. She started awake and looked anxiously at his face. He was white and stricken and despairing.

"Did you hear the bullfrogs all fall silent for a solid minute?" he asked in ghastly facetiousness. "I made them do that! I pulled for the coincidence that they'd all shut up at once. And they did! But that's all I could do! Apparently there's not a trained man left alive to join us. Not a tool-shop or a store of fuel or a motor or explosives or anything else. I pulled for everything that would make civilization return and the thing stayed cold. They were all impossible. But it warmed up nicely when I tried to control the bullfrogs."

He swallowed, and it was almost a sob. Frances stared at him. Lucky Connors listened in silence.

"I'll tell you what let's do," said Steve. He grinned at them, and it was more tragic than tears. "Apparently the way the world is, is the way the world is going to stay. Let's go out and cut our throats!"

V

MORNING came and Lucky was missing. The revolver and cartridge from the abandoned motor-car were set out beside where Steve had finally fallen into bitter slumber. And Frances was gone, too.

Everything was silent.

Steve got up. He went out of doors. Emptiness. No sign of Lucky or of Frances, either. He went cold all over. Then a surge of such terrible rage as he had never felt before in all his life swept over him.

He stood shaking, quivering with a lust for the blood of Lucky Connors, hungering for violence.

There was bright sunshine all about. There was the now weed-grown double embankment with its twin lines of rusty railroad track. Day insects stridulated. There were green things on every hand, blandly indifferent to the destruction of all that man had built, and birds flitted here and there in complete obliviousness to mere human tragedy.

Steve stood still for a long time. Then he spoke aloud in a reasonable, a calm, and a totally unconvincing voice.

"Well, she showed sense. While he's got that crater-stone, she'll have plenty to eat, anyhow. She'd have married a rich man in the old days, because he could give her a car and a fine house and jewelry. Now she's sure of a stolen chicken or a snared rabbit every day. That's riches. He even gave her a trousseau!"

He laughed aloud.

Then, suddenly, he cursed thickly and shoved the revolver and cartridges in his pocket. There were weeds growing in the railroad embankment. They were trampled and bent where two people had walked through them. Lucky Conners and Frances had left Steve and gone along the embankment toward what had once been a city.

Steve followed, moving quickly and silently.

His head did not clear at all. For more than seven months he'd clung to an insane hope that the highly theoretic and essentially unlikely facts he had gathered in six child's copybooks might mean the return of civilization. He'd hoped

that they would lead to the discovery and the subjugation of a force which men have always experienced but never suspected, and that the force would bring back safety and hope and decency to the world.

Now he knew that the force existed. He'd handled a crude but sufficient atomic generator and control. And it was utterly useless. It would not bring back a dead world. It would bring stolen chickens, and it would stop bullfrogs from croaking, and with it he had destroyed an aeroplane of the enemies of all he'd ever believed in. But it would do nothing more. And now Steve, raging, abandoned the thought of remaining civilized. He wanted Frances. He hated Lucky. He would kill Lucky, and though she hated him and screamed, Frances would be his.

He passed a place where three houses still stood, unpainted and long abandoned. Presently he passed a two-acre space of mere black ashes, where fire had raged unchecked and weeds now grew luxuriantly. A heap of debris where houses had been pushed violently from one side and had collapsed upon everything within them, and strangely had not caught fire. Then a building of reinforced concrete, now an empty shell.

Then he heard a muted *pop*! He heard a keening yell. He heard a second *pop*. It was a pistol—a small pistol, like the one he'd given Frances. At the thought of her, fury swept over him again. He broke into a shambling run.

Then he heard a cracking sound which was no pistol, but at a guess might be Lucky's rifle. A chorus of yells followed the explosion. And these were not the voices of Frances and Lucky, but of others. Wanderers, perhaps. Human beings sunk to the level of wolves, like the man he'd first killed in her behalf.

ON THE instant, his rage evaporated, and the revolver he found out and in his hand was no weapon with which to meet such folk. A pistol was wealth unimaginable, these days, and it carried all the risks of riches. A man with a pistol, having none to punish him for murder, was supreme among his fellows, until one of them managed to kill him for it. One man against twenty or thirty or forty, even though he had a pistol, was not only helpless but doomed. They would take any risk to win it. He might kill half a dozen. The rest would close in because the pistol was a prize worth any danger.

Steve found himself running. In his hand he held one of the slender, needle-sharp foils drawn from his pack. He had the pistol ready for a last resort.

Then, quite suddenly, he reached a place, where he could see the crater which occupied most of this city's site. About it was tumbled wreckage in which human scavengers might still hope to find some booty and even food in rusty cans. The crater was two miles across and chasm-like, save that it sloped down —all barren, glassy stuff—to sheer emptiness at its center.

And at the very edge of the crater, Frances stood at bay. Lucky lay flat on the ground. It was apparently his fall which had brought the triumphant howling which guided Steve. Stones on the ground—half-bricks and bits of rubble —told what had felled him. And Frances crouched desperately, her tiny pistol upraised.

She looked clean and trim and desperate, and her immaculacy and the completely feminine look of her caused some of the howling. The creatures who had stoned Lucky to unconsciousness yelled at her. They were horrible things. They hid behind remnants of concrete and rubble which had been left standing in that freakish skip-distance of a few hundred yards beyond a crater's rim before devastation replaces the annihilation of the crater itself. The ragged figures yelled and darted from one hiding-place to another, edging in for an irresistible surge upon her.

Steve's arrival was unheralded. His weapon was silent. He ran toward her, and paused to make a savage attack up-

on a group of four once-human things who seemed planning a simultaneous volley of stones.

His foil licked out and stabbed again and again, like the fang of a striking snake.

He darted forward with a bubbling scream following. He attacked and struck once more, and a shriek arose. He zigzagged closer, crazy with blood-lust and fear for Frances.

He had struck three times before attention turned from her desirable figure to his deadly one. Then a bearded thing with maniacal eyes leaped at him with a club. His foil darted in and he ran on. Stones fell about him. He darted and dodged, striking when he could, and arrived at Frances' side as an uproar of animal fury filled the air.

Frances did not look ashamed or conscience-stricken, but uplifted and desperately glad. She smiled at him shakily.

"L-lucky was pulling for you to come, Steve." she said.

"How the devil did you two get into this mess?" Steve snarled.

A stone crashed close to him.

"We came to—get another crater-stone if we could," Frances explained unsteadily. "Lucky said it wasn't likely, but he—pulled for it and his stone warmed up. So we came. We h-had to look at night because the stone glows. We did find—*Steve*! Behind you!"

STEVE whirled. His pistol spoke. They were doomed now in any case. He saw bobbing figures in the distance, called by the shots and yelling and now scrambling over wreckage to be in at the kill. There had been perhaps forty caricatures of humanity in sight at the beginning.

Now twenty or thirty more were on the way. The city had once held half a million people. A hundred or more could exist on what remnants even an atom bomb had left.

Lucky stirred. But he was dazed. Steve took his rifle. He fired three times —once at a nearby figure, twice at distant targets. The fall of the distant men filled their fellows with terror. They flopped down and ceased to advance. They would not encourage the nearer besiegers by arriving as reinforcements.

But there were yet other creatures popping out of holes, like rats. Steve saw men creeping toward the bodies of the two he had dropped. Not, of course, to offer aid, but to rob them of what poor loot they might offer.

More stones fell near the three at the crater's rim. They were not heavy enough to kill, but a lucky blow might stun, as Lucky had been stunned, and Steve saw a stark horror at the back of Frances' eyes. The girl was picturing herself at the mercy of these utterly brutalized scavengers in the wrecked remains of slums.

"Can't you use the crater-stone somehow, Steve?" she asked desperately. "Those rocks may hit us, and we can't keep shooting forever."

"The crater-stone," said Steve in bitterness, "will make anything happen that could happen by accident, but not a blamed thing more. It looks as if we're finished. We may be able to fight our way through, if Lucky comes to, but they'd trail us forever. If not for our guns, then for you."

A stone missed his head by inches. It slithered over the crater's edge and went bouncing and skittering over the glassy lining toward the center a mile away.

He fired. A man shrieked. Purely animal, utterly inhuman yells arose all about them. The sound from the half-hidden, gesticulating creatures was not like that of any other animal on earth. When men become beasts, some dim remnant of perverted intelligence guides their descent into an abyss of bestiality. No mere beasts would have shouted such things to Frances. And there were some cries which made it terribly clear that sooner or later a rush like a starving wolf-pack would be made upon them, and they knew what their fate would be.

Lucky stirred again. Steve fired once

more. Every inequality in the ground sheltered some scarecrow. They were snarling and yapping and regarding the embattled humans and their weapons with almost equally frenzied desire.

"I used the crater-stone, Steve," Frances spoke quietly. "It got warm. We can go now. W-will you try to carry Lucky?"

Steve did not relax his grim watch over the howling besiegers. But he suddenly noted that the number of those who exposed themselves to fling stones decreased. Second by second, almost, it seemed to lessen. In a minute, the number of missiles had dropped to half. They continued to grow fewer. The distant scrambling figures no longer advanced.

In three minutes the howling was as great as ever—if anything, it had increased—but there were no more stones at all. And Lucky had turned over and was trying groggily to get to his feet. Steve still watched savagely.

"I—used the crater-stone," said Frances again. "I think we can go now. L-lucky's getting up."

"Yeah!" said Lucky dizzily. "What a conk I got! That ain't my kinda luck!"

He steadied himself by Steve and rose to wabbling erectness. There was a ululating uproar all about them. But there was no longer a single stone in the air.

"What happened?" Steve asked. "What did you do, Frances?"

"I used—all the crater-stones and—pulled for them not to throw any more stones or come any closer. I—wished they couldn't. And—they can't!"

Steve ignored Lucky's dizzy swaying. He thrust the rifle back into Lucky's hand. He strode forward, his foil once more in readiness.

A few moments later he stood above a hollow in the ground in which three scarecrows writhed and wriggled. One snarled at him helplessly, working feverishly at his right hand and arm. A second lay doubled up kicking, clutching at his middle. A third wheezed and coughed and blasphemed with a strangled cry. His eyes upon Steve were terror-filled, but his paroxysm of coughing did not cease.

Steve went back to the others.

"But that ain't my kind of luck!" Lucky was saying querulously. "I got conked on the head! It's the first bit of tough luck I've had."

"Sling one arm around my neck, Lucky," Steve said. "We'll all get going. Frances hit on the trick that we didn't know, last night. They won't follow us."

Frances put herself on Lucky's other side. Bracing him between them, they moved toward the railroad embankment. They climbed it, while the noise of those who had besieged them rose to a new climax of imprecation and hatred.

They moved along the knee-high weeds which grew even in the gravel between the disused rails. Lucky recovered strength, with movement. In half an hour they had passed the tool-shed in which they had camped the night before.

"But that ain't luck!" Lucky protested again, after a long period of painful meditation. "I got a headache! That guy knocked me cold with a half brick. It's the first bad break I had yet!"

MOTHER GOOSE

(CIRCA 2054)

Humpty Dumpty sat on the wall,
A non-electro-magnetic ball.
All the Super's polariscopes
Couldn't revitalize his isotopes.

• • •

Jack and Jill went up the hill
In search of Z Free tenuity.
Jack was laid low by the Cosmiray's
blow
And Jill hurtled into vacuity.

—Irene Sekula

Steve had been silent, too. Not because any trace of his former suspicions of Lucky and Frances remained—they had vanished, somehow, with the discovery of the two of them embattled and about to become prey to the man-pack. He had been putting two and two together in the light of a mentally revised chapter of his treatise on the Paradox of Indeterminacy.

"Listen," he said drily. "I used the crater-stone last night. I couldn't do a thing except make frogs stop croaking. Remember?"

"Yeah," said Lucky. "But I pulled—"

"My guess is that you pulled for us to find out how to make the crater-stones work all the time," Steve told him. "You had to be knocked on the head for it to happen. So you got knocked on the head." He grinned with grim amusement. "You want to be careful how you pull for things with your luck, Lucky! Especially when you're being altruistic. That conk on the head was probably the luckiest thing that's happened yet. But if you keep on you'll luck yourself into getting killed!"

VI

ODDLY enough Frances and Lucky had found no less than three lumps of brightly shining glassy stuff in the crater. They were upon the line the railroad must have taken before it had ceased to be, together with nine-tenths of the city. At a guess, a shipment of uranium ore might have been in the area of annihilation when the bomb dropped. Perhaps it had been on its way to one of the atom-bomb plants the United States kept in operation. Or perhaps the fragments had been in a collection of mineral specimens in some school or museum.

The odds were incalculable against Lucky—having found the first one—finding more of the things Steve believed the result of the bombardment of uranium by the blast of an atomic bomb. But that finding had not been impossible, and he had pulled for it, and the first crater-stone had grown warm as he did so.

Now the three of them had breakfast and lunch in one, at a spot some ten miles from the ruined town. A small wild piglet poked an inquisitive snout at them from a canebrake and Lucky shot it. There were wild grapes nearby.

Lucky scooped out a hole in the ground, built a roaring fire of fallen branches, rolled the piglet in clay, and covered it in embers. The piglet cooked comfortably while Steve wrote feverishly in his copy-books. When the meal was ready he had organized his notions.

"It fits into a pattern," he said exultantly, his mouth full of tender roast pork. "Probability is anything that can happen. If you know how many different things can happen, you can figure out the odds against every one. When you throw two dice, just so many combinations can turn up. They can't make more than thirty-six combinations, because there aren't but that many combinations possible.

"A seven can be made in six different ways, so the odds are six in thirty-six you'll make it on any given roll. A two or a twelve can be made only one way each, so the odds are one in thirty-six you'll roll them. But with Lucky's crater-stone we can pull for a twelve, and the stone will warm up and he'll get a twelve every time. Because it supplies energy in a pattern so that nothing else can turn up! That is, nothing else will turn up by chance, because the crater-stone controls chance. Right?"

"Yeah, I guess so," said Lucky gloomily. "But I just got conked on the head, and that ain't luck any way you look at it."

"Wait a while!" said Steve. "When you roll dice, there are thirty-six combinations possible somewhere in the future. Your crater-stone picks out one and blocks all the rest. But suppose you pulled for your dice to roll a thirteen! There's no thirteen in the future to be picked out. The crater-stone can't pick it out, and it simply doesn't work, eh?"

Lucky grunted. "Wrong, fella! I tried that once and it scared me to death."

"One of the dice was cracked, eh?" asked Steve. "And when you rolled, it hit something and split into two parts? And read thirteen?"

"Y-yeah! How'd you know?"

"That was the only way it could happen," Steve told him. "There was a thirteen in the future of that particular pair of dice. So you got it. But on an uncracked pair you couldn't."

"But this conk on the head?"

"You pulled for us to find out how to make the crater-stone work all the time," Steve reminded him. "When you did, there were any number of things that could happen in the future. Instead of thirty-six combinations, there were hundreds of thousands. But only one set of events would show us how to use the crater-stones. So that was the one that had to happen."

"I don't get you," answered Lucky, looking puzzled.

"If you hadn't been conked you'd have been trying to use the stone," Steve explained. "If I hadn't been there, Frances would have been too busy defending herself to try. But when the one possible set of things happened, she used the crater-stone in the way that only she would have thought of using it, and those creatures couldn't attack us!"

"What happened to them, Steve?" asked Frances uneasily. "Did I—kill them with it?"

STEVE grinned, without too much amusement, and cut himself another bit of roast pig.

"You did better than that," he told her. "You found the trick we needed. Last night I tried to make some detonators explode. I tried to make some physicists come to where they'd meet us. I tried to pull for tool-shops, and aeroplane parts, and fuel-stores, and the like. I knew too much about what I wanted. I made what were practically blueprints of what I intended to have happen.

"And those things weren't in the future. They couldn't happen by accident. But all the frogs would stop croaking sooner or later. For every one to shut up for no particular reason—by accident, you might say—was in the future. So pulling for them all to be silent at once simply meant wishing for a coincidence. And it happened!"

He took a huge bite, enjoying himself. Frances shook her head. He went on, his mouth full.

"You wished they'd have to stop throwing stones. You wished they couldn't attack us. And in the make-up of every man there's a possibility of some happening that will incapacitate him. Maybe abdominal cramps or a paroxysm of coughing. A nerve-block that will make one arm useless for a while. Those things happened to different men.

"Maybe some threw epileptic fits. Maybe some fainted. There may have been heart attacks or sudden malarial chills—anything that could chance to happen to any man to stop him from attacking was bound to happen, by chance, because the crater-stones control chance. You see?"

Lucky blinked at him, chewing slowly. Frances stared, frowning, and slowly her forehead cleared.

"I—think so. If I'd wished for them all to drop dead, it couldn't have happened, because it couldn't happen by chance. You might say it wasn't on the dice."

"Exactly!" Steve nodded emphatically. "Lucky can't do miracles. He can't do the impossible. But he can do the improbable—the wildly unlikely. The one-in-a-million or one-in-a-billion chance. The indeterminate stops being indeterminate when a crater-stone works on it. Most results are somewhere in a possible future. Not all, but most. If they are possible, they're available to him."

Lucky chewed, and swallowed.

"Fella, I pulled for somebody to explain my luck to me," he grunted. "I got my explanation. And I got some extra hunks of that stuff back yonder. One

goes to Frances. You take the rest. I pulled for you to be a square guy. Now I'm just gonna watch."

"I don't know what you'll see," Steve told him. "But that ought to make it possible for people who want to live like humans instead of beasts to do so. And if it can, it surely will."

His lips set. There'd been a small community he'd seen, on his way from Thomas University to his home town. It was after he'd withdrawn from membership in a gang that called itself guerillas, and after he had evaded their attempted vengeance for the killing of one of their more prominent members. The community was a village of a dozen or so houses and some surrounding farms.

Steve had gone to them to warn them of an intended foray by the guerillas—a foray in quest of food and women. He joined them in an ambush of the guerillas. The looters were driven off. And Steve, scouting after the battered, wounded, snarling band, had been absent from the community when bombs fell on it. He saw the flares in the sky and felt the shocks in the earth.

Steve returned to find gigantic craters where the village and most of the farms had been, and the blast-effect had destroyed all the rest. And he knew, then, that the falling of bombs on that small and resolute village was not an accident. It followed too closely their success in defending themselves against looters. It was the consequence of that success.

The people who had planes and bombs wanted all other civilization destroyed. They preferred it to destroy itself. But they would let no seed of future rivalry survive. Unquestionably, among the looters and bandits there were agents of the people with planes and bombs, watching lest any sanity or decency remain anywhere.

"It occurs to me," said Steve suddenly, with narrowed eyes, "that if some of our friends recovered, back in town, they just barely might trail us, or they might tell some other people who'd take entirely too much interest in Frances' system of self-defense."

FRANCES regarded him with unquestioning eyes. Lucky frowned meditatively. Steve considered—and Lucky handed him no less than two of the crater-stones, and passed one to Frances. They varied in size, those three, but they were duplicates of Lucky's own.

But Steve only nodded absently, for he was thinking. They went on along the abandoned railroad. Presently they came to a trestle across a small, fast-flowing stream.

"In case our fine feathered friends back yonder trail us," said Steve, "or in case they tell somebody else, we'll build a raft that would carry us downstream. And our trail will definitely end."

Lucky unquestioningly set to work. They had no axe, so chopping was out of the question. But they dismantled a wooden fence and bound its bars together with wire from a single-strand cattle-fence of wire. They made three bundles and fastened them together into a raft, fifteen feet long and four feet wide. They launched it.

"And I'll try out my new crater-stone," said Steve.

He put his hand in his pocket. His expression grew satisfied.

"It warmed up," he observed. "Fine! Now we'll cast the raft loose and wade upstream."

Lucky's eyes crinkled with amusement. Frances stared.

"Look," said Steve, with a wave of his hand. "Anybody could tell we made a raft here. Anybody who wanted to trail us would follow the stream down. And I just used my crater-stone and pulled for the raft to float on merrily without grounding anywhere until it gets to a fair-sized river. So even if it's finally found, they'd still think we got off somewhere downstream from here."

Lucky chuckled.

"You got a hunch, huh? You think things ain't as disorganized as they look? I'm gettin' me an idea, too."

He splashed into the stream, joining Steve. But Frances rolled up her new whipcord slacks before she began to wade.

Steve seemed now to have a definite destination in mind. He pushed the pace. Walking in water was tiring, but he moved briskly upstream, Frances followed, and Lucky brought up the rear. Lucky had a long, stout, sharp-pointed stick in his hand, split off from a fence-rail. For the first mile or so he seemed to use it as a walking-stick. Then he reversed it. Now and again he halted. Once he fell so far behind that Frances paused anxiously.

"Hadn't we better wait for him, Steve?" she asked.

But then Lucky came into view, strolling in rippling water six inches above his ankles, and Steve went on without comment. They walked, altogether, nearly seven miles in shallowing water, by which time the stream was barely a brook and it was very late afternoon, and practically dark.

"It's about five miles more to where I want to go tonight," said Steve, in worried tones. "We'd better hit it up a little."

Frances looked very weary, but she rolled down her dampened slacks and uncomplainingly prepared to go on. Lucky glanced at her. "You tryin' to make Frances work up a good appetite?" he said humorously.

Steve shook his head.

"I'm trying a new trick with the crater-stones. I'm trying to make them yield information, indirectly. There used to be a house up this way that would be ideal for us to hole up in. A man I knew had it as a sort of hunting cabin. It's out-of-the-way and as likely as any place to be still standing. So I pulled for it that we'll sleep in it tonight, in safety, after a meal we've gathered on the way. The stone warmed up.

"If the house weren't standing, it wouldn't be possible for us to sleep in it. It wouldn't be on the dice, so to speak. If there weren't some happening tied in to it to be arranged, the stone wou'dn't have needed to warm up. When the two things are linked, the warming of the crater-stone means that both have to happen, and the house must still be standing and in shape to sleep in."

Lucky blinked.

"Hey! That's—" He stopped. "Migosh, I see it! I pull to roll a thirteen on dice and the crater-stone won't warm up unless one of 'em's cracked. So if it warms up I know one's cracked without loking at it. Sure! Sure! So you know there's a house there and it's okay."

"We haven't the grub yet," said Steve.

"Shucks," said Lucky. "I had a sharp stick in my hand. I been stabbing at fish all the way upstream. I got seven, two big fellas and five little ones. Grub's all set. Let's go on and get a good night's rest."

HE TOOK the lead, now, exuberant and happy. Steve and Frances followed. Frances was tired, but she smiled at Steve as he waited to help her up a steep place on the way they had to go.

"That's an awfully good trick," she said. "Using a crater-stone to find out things. If you can make things happen and find things out—"

"We can," he told her. He held her hand to ensure her balance on tumbled rocks. "And I've found that all three of us are going to live through what's coming. I pulled for the three of us to be together five years from today. And the crater-stone got warm. Thousands of millions of states of affairs could exist for all three of us five years from now, but now none are possible which don't allow us to be alive and in the same spot."

It was very late dusk. The first faint stars winked into being. Shadows of the tall hills into which they made their way made it almost dark where they moved. Lucky, on ahead, was singing lustily to himself. And the footing became quite secure, but Steve still held Frances' hand, as if unconsciously, and she let

him, as if unaware. Yet the pressure of her fingers was warm and strong against his palm.

"I didn't realize it, but I know something of the future, too," she said softly. "I wished for something. And it will happen."

"What?"

She shook her head, smiling up at him.

"You don't want to fool with the things," he said anxiously. "We've still got to find out how they work. Lucky got hit on the head as the result of one of his wishes only this morning. You've got to be awfully careful. They're dangerous!"

"Not what I wished for," said Frances.

Somehow, they were standing still and facing each other. Frances' hand was firm and soft. She looked very wistful. She was very pretty, but as she looked up at him her smile was wavery and a little bit frightened, too.

Suddenly he took her in his arms and kissed her. A dozen times over, with long-pent-up enthusiasm. And then he released her.

"I'm sorry, Frances!" he said contritely. "I wanted you to feel safe with me, but you're such a swell girl—I just couldn't help it!"

He gulped. He suddenly realized that he still had his arms around her, holding her fast so she couldn't flee until he had placated her.

Then he realized that she wasn't trying to flee. She still looked a little scared. But she looked glad, too.

"S-silly," said Frances shakily. "Of course you kissed me. What do—what do you think I used the crater-stone to wish for?"

VII

DESPITE their haste, they reached the house late; when the moon in its last quarter was barely above the horizon. It was a small house and a snug one, built into the side of a hill, with many trees around it and tall second-growth beginning not far away. Steve and Lucky scouted it cautiously, weapons ready, and at last stood sniffing at smashed-in doors, and it was empty.

But they searched it thoroughly in the darkness before they gathered in the big living room and Steve made a fire in the great stone fireplace. As its first flickers rose, he pounced upon long drapes, bunched in untidy heaps upon the floor. He was hanging them across window-openings before Lucky realized what he was about.

Then, as the light in the fireplace increased, the two of them prowled about—and Lucky went outside to make sure that no ray of light escaped, and Frances regarded Steve with shining eyes and he kissed her again very satisfactorily—and made everything quite light-tight.

"They blacked out cities back in old war times," said Steve. "Later radar made that useless. Now that there's no more civilization, a lighted window means somebody trying to get back to it. So the old-fashioned blackout comes in again."

"And the old-fashioned fish-fry comes back too," said Lucky re-entering the room. "Only these got to broil before the fire."

As Lucky began to cook the fish he talked, meditatively.

"You said something today that set me to thinking," he said. "And you went to a lotta trouble to make sure we weren't trailed here. What makes you so positive there's something—uh—phony about the way things are?"

Steve told him of the small community he'd found in which folks had resolutely tried to cling to all of decency and civilization that remained. He also told of the band which called itself guerillas, and how he'd killed a leading member, and how he had gone ahead to warn its prospective victims. Then he told of the victorious defense, and the bombs which fell upon the defenders afterward, obliterating them and all they'd fought for.

"So somebody doesn't want civilization to come back," said Steve. "You see

why, of course."

"Nope," said Lucky.

"There can't be an atomic battle," Steve pointed out. "There can only be atomic massacre. There can't really be an atomic war. There can only be a contest in destruction. And there can't be conquest by atomic bombs. You can kill people with 'em, but you can't conquer them. So when this thing started, the United States couldn't be conquered. It could only be smashed. Which it was! Most of the world was smashed, too. But the part where the aggressors live, escaped. Not completely, I suspect, but after a fashion. Left alone, we Americans would start to build up our civilization again, because even an unharmed other nation couldn't occupy all of America. These people probably didn't have nearly enough people left. They certainly haven't ships and supplies to carry and maintain an occupying force. But if we built back, we'd be dangerous some day. So what would they do?"

Lucky grunted.

"I'm beginning to guess, fella, and I'm mad!"

"So am I," Steve told him. "It isn't all guessing. Those people would establish bases where they'd store planes and bombs. Those bases wouldn't be used to conquer anything, just keep us from rebuilding anything. They'd send out spies with pocket radios, to roam around with looters and so on. They'd have their planes keep up surveys. Ploughed fields mean people still holding on. Where they found civilization hanging on, the spies would lead looters to rob and wreck it. If the looters failed, they'd use planes and bombs."

Lucky Connors growled a little.

"It adds up, I think," said Steve, carefully. "If they can keep us at the level of animals for fifty years or a hundred, we'll be merely savages, those of us or our children who'll be left. And meanwhile the people who keep us degraded will be breeding feverishly in their own country, so that some day they can come over and occupy a nearly empty continent, peopled only by savages and not many of them. Possibly," he added evenly, "it's not only one continent they plan to reduce to savagery for their descendants to swarm over. Maybe it's all the world. Maybe they plan one great nation of one blood which will people the whole earth. All they have to do is exterminate all other nations."

Lucky growled again.

"They ain't goin' to get away with it."

"No," said Steve. "I'm beginning to hope they won't."

Lucky stared at the fire.

"Yeah," he said presently. "I'm beginning to see something I'm going to attend to, come tomorrow. Let's get some sleep."

THEY curled up before the fireplace, all three of them, and slept. Steve woke when Lucky shook him gently. He was wide awake on the instant. Lucky had pulled down one of the drapes they'd hung over the windows, and early sunlight streamed in. Lucky put his finger to his lips and nodded at Frances. Her fingers were intertwined in Steve's, and he flushed awkwardly. But Lucky seemed not to notice. He beckoned Steve outside, leaving Frances still sleeping.

"She's a nice kid," he said without expression, once in the open air. "You're going to look after her, huh?"

Steve looked at him sharply.

"What's up, Lucky?"

"I'm ducking out," said Lucky. "I'm kinda crazy about Frances. She's kinda crazy about you. And I got that craterstone that brings me luck, only it's got limits. I wanted something the other day, and I got it, and I got a conk on the head because that was the only way I could get the rest of it. I learned something."

Steve did not hear all of this very clearly. His mind was on Lucky admitting he was crazy about Frances.

"What're you driving at?" he demanded sharply. "If you think—"

"Guy," said Lucky wrily, "I think Frances is a swell kid. A long time ago

I pulled for luck for her. And she met you, and it was luck for her. Remember how you come to be with her? Okay! I pulled for luck for Frances. Then, presently, I pulled for her to like me. That was easy.

"I went further and pulled for her to be crazy about me too, that was no go. It wasn't on the dice. If she's to be lucky and happy like I want her to be, loving me ain't in the layout. There's limits to what those rocks outa the craters will do. So—I'm clearing out."

Steve frowned, aware of very many mixed and incompatible emotions. There wasn't much to say.

"But you're needed, Lucky!" he said honestly. "Frances and I can't do all that's got to be done, even if we have crater-stones too!"

"I know," said Lucky, "I'll be back. I'm gonna hunt me down one of those guys that reports to the fellas with planes and bombs. It'd be kinda interesting to hear him talk, if he got confidential. I—uh—think I can get him talkative. And I'll be coming back from time to time. Being crazy about Frances the way I am, don't mean hating somebody she does care about. Only—she's a good kid, fella! Treat her right, huh?"

He looked searchingly at Steve, and then suddenly turned on his heel and marched away. Twice, Steve opened his mouth to call him back. Both times he closed it. Then Lucky disappeared in the thick undergrowth which began to grow a bare hundred yards from the house.

He had been gone an hour when Frances woke and smiled at Steve. He was puttering about the fireplace, and his expression was grim.

"Good morning!" she said brightly. Her smile vanished. "What's the matter?"

"Two things," he told her. "For one, Lucky's gone off."

Her face went blank. Carefully and painstakingly, he repeated everything Lucky had said. Frances' face softened.

"He's kind of sweet, isn't he, Steve?"

"He's probably a better man than I am," said Steve with some bitterness. "*I* couldn't leave you to someone else because you'd be happier with them! *I* couldn't give you up even for your own happiness!"

"But Steve!" said Frances convincingly. "I wouldn't want you to. I wouldn't want to be happy with anybody else."

His expression did not lighten.

"There's something else. After Lucky left, I went poking around. I told you I was here years ago. There've been improvements. A dam across a stream half a mile away. There's an electric generator there, big enough to light this house and heat it too, in winter. And the man who owned this place must have survived the first bombings, because he tried to get set to last things out. He got hold of some supplies. Seeds, and so on. Seeds of various staple crops that could be grown in this neighborhood. He even had machines to clear the land. All looted or spoiled now, of course."

He stopped. Frances watched his face.

"Well?"

"Looters came," said Steve without expression. "You've seen what they did to the house."

FRANCES looked about her. She'd known the place was not intact, of course. Broken-in doors. Hangings on the floor. Now she saw books flung contemptuously about. The place had been looted and fouled and smashed. It had not been fired, because it was built of field-stone. It had been ransacked for anything that human beasts had desired, but they wanted little more than food and drink and weapons, these days. They smashed or threw aside everything else.

"They smashed his skull in," said Steve. "I just buried him. Not that one dead man more or less amounts to much these days. It all happened months ago. But there are looters who know about this place. They've been here. They'll

probably come back. Staying here means taking a chance."

"Chance, Steve?" Frances said. "Aren't you the man who said we can't do miracles, but that we can do the improbable and the wildly unlikely and the one-in-a-million and one-in-a-billion tricks? You want to stay. I think we'd better. Maybe we can make a garden, for food, and with an electric generator and such things to work with, Steve, couldn't you set to work to—try to find out how to make the crater-stones start to build back a world fit to live in?"

"Pretty words," said Steve bitterly. "But right now the people who have planes and bombs have made us no better than beasts. Look here: I love you, and you love me. It ought to be something magnificent, something we could boast of, something to fill us with pride, but how can we get married? Hang it, human beings can't even marry any more! They can only mate. And that's not enough for the way I feel about you."

Frances went a little bit pale. Then she smiled.

"Thanks, Steve. I feel that way, too. But what would you do? Start out on a probably hopeless pilgrimage to find a surviving preacher?"

"Useless," growled Steve. "And stupid! If you're not afraid of looters, we'd better stay here. Lucky will look for us here. I've got work to do. Somebody's got to do it. Hang it, the world can't stay like this!"

He swung on his heel, suddenly, and stamped out of the house. And Frances looked at the third finger of her left hand. There was no ring on it. She looked at it very queerly.

But presently, while Steve explored the possibilities of the electric generator, she set to work to clean house in a very housewifely fashion.

VIII

WHILE driving a nail that had bent unexpectedly, Steve had mashed his finger and he could not write. So he was dictating, and Frances faithfully put down his words in the fourth of six child's copybooks which already contained a good part of a treatise on the paradox of indeterminacy.

"Indeterminacy, then," said Steve. scowling at the wall, "is merely a term for a normal state of balance among particles, caused by an equilibrium among forces. The laws of chance are the laws of this equilibrium. Variations from probability, then, are results of changes in the forces acting at a given spot and time. But as a new equilibrium is arrived at, variations from probability cancel out. Er—have you got that, Frances?"

She nodded.

"But the important thing is the way the crater-stones work, Steve," she said. "We don't know that. It still seems like magic."

"But it isn't," he protested indignantly. "It isn't even now. Rhine, at Duke University, proved that you can pull for things and change the laws of chance. And he had the devil of a time separating tests for extrasensory perception and telepathy from tests for fore-knowledge.

"Rhine even found he could prove occasional fore-knowledge so easily that it messed up the evidence for telepathy. You see what that means? Back in Nineteen-forty-four and even Forty-three, his test subjects were making seven come too often for chance, on dice, and proving that somehow they could tell in advance what a later check-up would disclose. So what does a crater-stone do that wasn't normal scientific observation a long time ago? That wasn't text-book stuff? It's perfectly natural!"

"I said we don't know how it works," protested Frances.

"We've got blamed good guesses," he protested in turn. "Look, Frances—you've heard of sympathetic vibration and you've heard of resonances. You've held a coffeepot when a railroad whistle

or some particular note from a radio made it vibrate violently, haven't you? And you've heard of forced vibrations?"

Frances smiled at him. While she wrote at his dictation, she could not look at him. Now they were in the big living room of the house they had now appropriated for their own. Steve had made stout wooden shutters—he'd torn down an out-building for material—which closed all window openings at night and not let a particle of light escape. But this was daytime, and light streamed in.

The books that had been flung about in a frenzy of destructiveness were back in place, though with great gaps where looters had burned some for fuel. There were obvious emptinesses where furniture had been, and the pieces which remained were mostly slashed or scarred in sheer wantonness.

What could be done to retrieve a feeling of normal life had been done. Quite possibly, Steve and Frances were better housed than any other two people in North America—outside of the places where people had planes and bombs.

"It works like this," said Steve firmly. "Suppose I have a violin-string tuned to the note A. I pluck or bow it. It gives off an A. Then suppose I leave it alone, but sound the same note with a pitch-pipe or another string? The first string will vibrate by sympathy, won't it? By resonance?"

"Oh, yes—and so will the octaves," said Frances. "If you push down the loud pedal of a piano and strike an A, all the A octaves up and down will vibrate too. You can feel them with your fingers, if the piano's in tune."

"Only there probably aren't any pianos left, so we can't verify that," said Steve drily. "What I'm getting at is that if I have a violin-string tuned to A and I sound a D note with something else, then if the D note is loud enough—but it has to be very loud—the string will vibrate a D. But not all of it—the length that tunes to D—the length that would vibrate if I fingered the violin to make it sound a D instead of A."

Frances considered, and then nodded and shrugged her shoulders. "Well?"

"Something that happens makes a mental impression just as a plucked violin-string makes a sound," said Steve. "Seeing a thing happen is like hearing a note. Remembering or imagining a thing happening is like sounding a note. When—without the crater-stone—I pull for a seven to come up on dice, it's as if I were sounding an A-note for a violin-string to respond to. My brain, unassisted, can't sound that note very strongly, but it can sound it strongly enough to make a seven come up more often than it would otherwise."

STEVE paused for a moment, to find the right words so she would understand. "But the crater-stone echoes my piping little note and amplifies it," he went on. "It's like humming into a microphone hooked to a monstrous public-address system. The same hum comes out a hundred thousand or a hundred million times amplified. What I get is a note that's strong enough to force a vibration.

"With my voice I can't make a violin A-string sound a D. But with a speech-amplifier I can. With my mind I can only make things more likely. With a crater-stone, using the energy of breaking-down matter to amplify what my mind does, I can make happenings, if they're possible."

"And sometimes," said Frances, "sometimes the trick doesn't work because—"

"Sometimes," said Steve, "I can't make an A-string sound D because it's broken. Or maybe it's tuned to E, and none of it is long enough to vibrate a D. Sometimes a happening—well—isn't on the dice. All clear now?"

"If you'd dictate something like that," admitted Frances, "it wouldn't sound quite as much like gibberish as your technical manner. But Steve—"

"What?"

"We haven't anything for dinner."

"We'll go look in the fish-trap," he told her.

Two or three minutes later they emerged from the house together. Neither of them ever left the building alone, or unarmed. Their arms consisted solely of the tiny automatic Steve had given Frances within an hour of their first meeting, and the revolver from the plastic suit-case. Both were very short of shells.

Of course, both Steve and Frances carried a crater-stone each. Steve had fashioned holders for them out of a bit of lead drainpipe, but he could not discover that the crater-stones had a normal rate of disintegration capable of producing burns.

Apparently the enormous bombardment of uranium by the radiation of an atomic bomb produced a substance completely new in all its qualities. In all likelihood, for example, it was capable of resisting even the temperatures of an atomic explosion.

"If my father hadn't been killed," said Frances presently, "and if I knew him, by this time he'd be trying to make an artificial device to do what the crater-stones do."

"Do you think I'm not working my head off at that?" demanded Steve. He added bitterly, "But I'm working practically at random. I've got to try ten thousand or a hundred thousand things until I hit on it practically by chance—"

Then he stopped and swore disgustedly.

"I'm a half-wit! By chance! And the crater-stones control chance! If I could find out that this house was intact, without seeing it, I ought to be able to find out if a given line of experiment will turn up what I want, without trying it. All I have to do is pull for it to work, and if the crater-stone warms up—"

THEY came to the place where the fishtrap was. A dam a hundred feet wide held back a small brisk mountain stream and made a pond all of half a mile long. Steve had put a distinctly unethical fish-trap in it, which every day produced perch and trout sufficient for their needs.

In odd spots, too, he had tiny crops growing. The looters had taken everything they could use, and doubtless intended to spoil the rest, but spilled corn-grains remained for Steve to plant in little clumps of no more than half a dozen stalks at any one place.

In the looted pantry, too, there had been some rotted vegetables. Tomato-seeds were salvageable from a dried-up mess on the floor. With electric power for warmth, and a snug house, Steve planned to move some plants indoors and have food during the cold weather by hot-house cultivation.

He fumbled in the fish-trap and hauled out a good-sized trout by the gills. He reached in again, trying to corner another of the wildly darting, imprisoned creatures.

"I'm a half-wit!" he repeated bitterly. "Of course I can duplicate what the crater-stones do. I can practically make them tell me how. I can work out a line of research and see if the answer's there by pulling for it to turn up. If it can, the crater-stone will warm up and make it sure I'll find it. Oh, I'm an imbecile!"

He straightened up, and Frances raised one hand. She had turned her head and was listening with a desperate concentration. She was a little bit pale.

Steve froze. He listened, too. Then he quietly put down the still-flapping fish and drew his revolver. Both of them, then, waited very tensely.

Two hundred yards away, a head appeared. There was a blood-stained bandage about it. It was unshaven and haggard. A second head. A third. They stared at the house. They conferred. Three men broke cover and ran stealthily toward it, but dragging their feet as if at the last gasp of exhaustion.

One of the men carried a shotgun. Another carried a six-foot bow. The third had an unwieldy contrivance

which, at a guess, was a crossbow made with automobile-spring leaves to hurl its bolt. All three men were ragged. Each had been wounded and bandaged and wounded again. They ran heavily toward the house, dodging exhaustedly behind trees to cover their advance.

"Hello, there!" Steve called sharply.

Frances started a little and unconsciously moved closer to him. The three stopped as if shot. They wheeled. Then they came toward Steve. The man with the shotgun held it ominously ready. The man with the bow had an arrow to the string. The crossbowman had the wire cord of his contrivance drawn back, and doubtless a bolt ready in the groove. But as they came closer to Steve, they bunched as for mutual support. They moved with the air not so much of menace as of desperation.

"The devil!" said Steve, looking from one to another of them. "You're honest men. Wonders will never cease."

"Sure we're honest men," one of the three said in a choked voice. "How many cutthroats have you got hidden, you that stand there and laugh at us!"

"No cutthroats," said Steve. His eyes narrowed suddenly. "You're scouts, eh? Going on ahead to try to find—"

VERY, very thin and far away, a high-pitched yell came through the bright morning sunshine. After it came the muted, distant sound of a shot. The three men turned their heads from Steve to that sound. One of them sobbed.

"Blast 'em! Oh; blast 'em; Come on, let's get killed!"

He whirled.

"What's that?" Steve snapped. "Your rear-guard? How many of you?"

"Fifteen men and the women and kids," the bearded man with the shotgun said heavily. "There's a gang of guerillas been chasing us for days. They got near half of us. Now they'll get the rest."

He turned drearily to go where a thin, shrill, triumphant howling rose. There were two more shots. The bearded man's face worked.

"Get the women in the house," said Steve fiercely. "It's stone. They can't burn you out. We'll hold 'em off there."

"What with?" panted the crossbowman, despairingly. "Might as well get killed right off."

"Come along, Frances!" said Steve angrily. "We'll find the women, whoever they are. You lead 'em to the house and barricade the doors and windows. I'll take the men and we'll see what the crater-stone can do."

He was already running with her, hand in hand, in the wake of the three weirdly assorted individuals who now toiled exhaustedly toward a confused and intermittent sound of battle.

Where they ran all was quietude and peace—a bright summer sun drenched trees and grass and weeds with shimmering golden light. The small valley below the house, and the forests which covered the hillsides, were empty of any sign of life save the green things themselves. Insects sounded everywhere in the bland and warmth-intoxicated shrilling of midsummer. Somewhere a bob-white quail called tranquilly.

But a man's death-shriek came faintly from far away. There was another shot in the distance. Steve and Frances dived into the trees after the drearily running trio they had intercepted.

"What can you do with the crater-stones?" asked Frances, between panting breaths.

"I don't know," grunted Steve, pounding on. "But they're honest folk, those three. They bunched when they came close to us instead of spreading out. If they've got women with them, they're what the guerillas are after. The worst of it is, there'll be somebody with a pocket radio among the guerillas, most likely. There was in the gang I met, once upon a time."

Yells—far ahead, but nearer than they had been. They saw a scared, flurried movement in the underbrush. Women.

"You mean—if we help beat off—the

guerillas," panted Frances, "the—people with planes and bombs will—bomb us?"

"That's the idea," Steve growled. "Take the women to the house and barricade it! I'll be back."

"Be careful!" she called desperately after him. "Please be careful!"

But he was gone, diving through brushwood, jumping fallen tree-trunks, running through thick woods toward an inchoate, spasmodic tumult in which men fought like beasts and some died quite otherwise. There were two sides in that battle. Steve was known to neither. Each was likely to think he belonged to the other side.

IX

NIGHTFALL descended and the battered, oak-beamed living room of the house was very dark. Children slept in the abandon of absolute exhaustion close by it. There were other figures lying on the floor. Women tended some of those figures. There were three women with babies, which they held tightly in their arms. Some men squatted against the wall, crude weapons at hand, drooping in utter weariness.

Frances found Steve peering from an upper window. There was a great fire burning a hundred and fifty yards down hill. There were figures about it. There was yapping talk coming from the fireside.

"My guess," said Steve, growling, "is that somebody's trying to talk them into making a rush and they haven't much stomach for it. We did plenty of damage in those woods!"

"I saw you were safe," said Frances uneasily. "But I've been trying to help the women, and some of the men are wounded. I was so afraid the people you were trying to help would kill you."

"I was pulling they wouldn't," said Steve drily. "And there was a shaving-kit in those suitcases, remember. I was shaved. To our friends that meant I was civilized. The guerillas don't bother."

Frances peered out the window toward the leaping flames. At least, she seemed to. Actually, it was an excuse for being comfortingly close to Steve for a moment.

"Do you think they'll try to storm the house?"

"Probably," said Steve reflectively. "It's a long arrow-shot to the fire. But maybe the crossbow could reach it. Get that chap with the crossbow, Frances. Tell him to come up here. And whoever has the strongest bow."

"But—Steve! You told Lucky and me that you warned some people once that the guerillas were coming, and they beat off the guerillas, and—bombs fell and wiped them out."

"Yes," said Steve curtly. "Guerillas and looters are wiping out the last traces of civilization, and so long as they're winning, the people with planes and bombs don't interfere. But if anybody is strong enough to stand off looters, somebody among the looters talks into a pocket radio and a plane takes care of the situation. Economical! How to destroy a civilization: give bandits a free hand and use bombs only where decency is able to defend itself! Go get that crossbowman and somebody with a strong bow, won't you?"

She hesitated, and he kissed her, there in the darkness by the open window.

"We're chaperoned, now," he said drily. "Go on!"

She went away, feeling her way down the unlighted steps to the great living room with its feeble flickering ruddy light. When she came back, two of the fugitives came with her.

"The guerillas are holding a council of war, down by the fire there," Steve told them. "They're working out plans for storming the house. Can you drop an arrow or two or a bolt or two among them?"

"I ain't a expert," the bowman said wearily. "I made a bow and arrows because there wasn't anything else to shoot with."

"And as for me, I thought this crossbow would be good," the crossbowman admitted. "And I did get a couple of guerillas. But I'm no sharpshooter."

"Try it just the same," Steve urged. "Just let the thing fly high and fall near the fire. I guarantee results."

FRANCES caught her breath. He could. An arrow shot into the air, however inexpertly aimed to fall among the men about the campfire, would have one chance in a thousand or two of striking one of the figures. And if one had a crater-stone which controlled chance, that one-in-a-thousand chance was the only one which could happen.

The bowman loosed an arrow, aimed high and pulled all the way back. There was a long, long wait. Then a sudden startled hubbub about the fire.

"It hit," said Steve. "Now you two, take turns and let off as many as you can as fast as you can. I think you'll be lucky."

The crossbowman loosed a bolt. The bowman, another arrow. The crossbowman again. The archer. Yells and screams and howls of fury came from the fire circle.

There was no suspicion that the missiles came from the house. The fire was too accurate and too deadly. The guerillas thought they were being ambushed from the woods and undergrowth. They dived away from the fire and sought their attackers. They found—sometimes—each other.

A half hour later there was a lurid red glow over a hilltop, and Steve raged impotently.

"They've fired the generator-shack!" he told Frances bitterly. "And I'd figured we'd start using electricity in a day or two. Maybe they'll wreck the dam."

He stood irresolute for a moment, and then fury got the best of him.

"I'm going out," he said savagely. "I'm safe enough; we've got a date for five years from now, with Lucky."

"We'll—be together in five years," said Frances shakily, "but we won't necessarily be alive, Steve! If anything happens to you—"

"Use the crater-stone," he told her. "I'm going out!"

He went downstairs, still raging. He summoned two of the newcomers and had them stand guard by a repaired, battered door—with no faintest light behind it—while he opened it silently and slipped out into the darkness.

Despite his fury, he was cautious. He lay close behind the wall for a long time. He heard no sounds which were not obviously natural. No one massed for an attack, certainly. After a long time he moved away from the building. He found nothing, save one groaning figure which he avoided.

An hour after his first emergence, he heard a low muttering sound. He trailed it, moving with infinite caution. He knew the ground about the house now, and he was able to progress with Indian-like silence.

He found a man. One man, alone. That one man muttered quietly, and stopped as if listening for a reply, and muttered again. He was not speaking English. Steve could not hear the syllables clearly enough to tell what the language was, but he knew that it was not English.

There was a surge of frenzied hatred which swept over him. Then he lay still. Very still. He waited until the conversation was ended. There was a tiny clicking sound, and then a stirring where the talk had been. A man moved away. One man only.

Steve let him get well on ahead, and then trailed. A mile on, he grew deliberately careless. He limped. He crashed through bushes. He made whimpering noises to himself. He heard the sounds of the other man's progress stop. He blundered on, moaning a little, and limping more markedly than before.

Then he heard a thrashing. He snarled in a high-pitched, scared tone:

"Who's that?"

"Me," said a voice in the darkness, somehow amused. "You hurt?"

"Yeah!" snarled Steve.

HE SEEMED to stumble and pitch headlong. The other man came to him as he rolled and grumbled. Steve got his legs under him. He was crouched when the other figure loomed over him. He rose, and the little foil struck aside a branch and slid into flesh with the curious sliding resistence Steve had learned to know.

Three minutes later he had found a small instrument which could be concealed under a man's armpit. He reflected with some grimness that the discovery justified his unwarned attack, which would have been assassination under other circumstances.

But atomic war allowed of no such delicate ethics.

This man had been with the guerilla band. He'd lingered after his fellows fled. They thought they were attacked by deadly figures from the wood. They could not imagine, of course, that arrows and crossbow bolts could be shot with such absolute accuracy from the house. The chances against every missile finding its target would have been too great to believe in, and they knew of no solution to the paradox of the indeterminate. So the guerillas had fled into the darkness, seeing enemies behind every treetrunk, and frequently finding them.

Only this man had remained until all was quiet, and then he'd fired the dynamo-shed as a minor blow, and later still he'd used this pocket microwave transmitter. He was a spy for the people with planes and bombs, guiding guerillas to loot and burn and kill, so that any trace of human life above the savage stage would be eradicated.

The burning question was, would he have reported a defense by people civilized enough to need bombing, or on a strictly barbaric level? Would he have reported the attackers from the dark as another band of guerillas who would undoubtedly carry out the mission the defeated looters had in mind?

BACK at the house, Steve consulted with Frances. He showed her the little transmitter and no less than two automatic pistols and a precious store of cartridges he'd found on the spy's body.

"They were routed with arrows," he told her, frowning. "They also thought they were finding enemies all over the woods, though they were actually fighting each other. The logical thing for him to report would be that his gang ran into another, which chased his gang off to do the murdering and raping his mob planned, themselves. But I think we'd better move away eight or ten miles for a week or so, just in case this house is bombed."

Frances shook her head.

"We can't do it, Steve. One of the babies is sick. Desperately sick. And two of the men couldn't walk ten miles. All of them are completely worn out. They just can't go any farther! They've been fighting a rear-guard action for several days already. They're exhausted. So—I used my crater-stone. I pulled for it that the baby'd get well and be playing in the sun in front of the house day after tomorrow. And the crater-stone warmed."

Steve considered.

"Then it will happen. Crazy, isn't it? If the baby can play in front of the house day after tomorrow, there can't be a bombing. Evidently it's on the dice that we can escape for a while, and the possibilities which would prevent it are blocked off now. But I wish you wouldn't use those things, Frances! They must be radioactive when they warm up. So I've got to figure out a way to do what they do, without them."

"I wish you could, Steve. If I could understand, it wouldn't seem so much like magic."

He ran his hand through his hair, in exasperation.

"But it's not magic. It's physics! It's no more magic than radar. If you'd read all the way through my copybooks you'd understand it perfectly. It's simp'y forced resonance. We picture something

in our minds and the crater-stone amplifies it, and the happening we imagine—if it exists in a possible future—gets charged up with that extra energy, and the equilibrium of things in general can only be restored by that thing happening. That's all. It's perfectly simple."

He looked longingly at the tiny microwave set.

"I'd like to look this thing over, but I need good light and it's hours until dawn. Go get some sleep."

Himself, he went out again and to the still-glowing embers of the generator-house by the dam. The dynamo was ruined. The reek of scorched insulation mingled with the stinging smell of smouldering wood. Steve was too disheartened to try to quench the embers with water from the pond.

"We're savages," he told himself savagely. "We fight with bows and arrows. We've no lamps—not even candles—and our only light is an open fire. Those crater-stones are simply freaks. Maybe Frances and I can keep going with them, but we can't build up a civilization with a few hunks of accidental mineral. Now we've a pack of refugees on our hands and we can't feed them, and the electricity I figured I could tinker with has gone to the devil!"

He heard his own voice, complaining and querulous. He stopped.

"Maybe I'd better go out and cut my throat," he said wryly. "I'll cart some fish back to the house and poke into that radio set as soon as it's light."

He did. There was no point in trying to capture individual fish. He hauled the whole trap out of the water and slung it over his shoulder. One of the younger fugitives had been sent scouting. He helped Steve bear the load. Steve had noticed the boy—a gangling youngster of sixteen or thereabouts.

"Bob," said Steve. "Do you know anything about electricity?"

"I had a television set," the boy told him awkwardly. "I put it together myself, and it worked."

"M-mmm," Steve began. "There's a generator up by the dam at the end of the pond. It did make electricity to light and heat the house. Those fellows last night burned down its shed. It looks like it's ruined, but maybe some of the inner layers of wire can be salvaged and we can rewind it by hand. Want to take a look at it?"

"Yes, sir!" The boy's face lighted up.

"Go to it, then," said Steve.

WHEN he reached the house, dawnlight was beginning, to the east. He turned over the fish to a competent-looking young farmer, on sentry duty near the house. And Frances had not gone to sleep. She was watching for him. She slipped her hand into his.

"You seemed so uneasy, Steve, when you went out. Do you feel better now?"

"Outside of various problems," he said drily, "such as how to find food for all these people, and how to make a ruined generator generate electricity, and how—without information or equipment—to make something that will do what the crater-stones do so we can understand 'em and make the most of them, and how to keep guerillas away without being suspected of holding on to the decencies of life."

He almost ran out of breath.

"In short, outside of feeling that there's not much use in trying, I'm all right."

She bent close and whispered in his ear.

"Thanks," he said moodily. "The feeling is mutual. But I insist that until I'm something more than a witch doctor doing mumbo-jumbo with magic stones, until I'm a civilized man again—oh, blast it!" Then he said abruptly, "The light's good enough. I'm going to look at that pocket radio."

She ran indoors and brought it to him. He regarded it sourly.

"Only a spy should ever see this. So just possibly, in case a spy was killed by accident, they might have tricked it up. I'll be a little bit cagey."

He moved a hundred feet away. He

worked busily, while she watched him. Presently there was a sharp popping sound and she gasped. But he waved his hand reassuringly. After a few moments he came back.

"Thorough, systematic people, our friends with planes and bombs! If you open this thing the obvious way, it explodes. I cut it open from the back, so it didn't. That popping you heard was the detonator-cap, after I'd taken out the explosive."

He spread out the opened small contrivance. There were tiny, almost microscopic radio-tubes. There were infinitesimal conductors and inductances. A minute battery. And there were two dials beside the midget microphone and miniature speaker.

He regarded it for a long time.

"Nice," he said at last, ironically. Wonderfully nice. It's a microwave set. If a plane's high enough in the stratosphere, this can contact it even several hundred miles away. They beam the microwaves by using the foil speaker-cone as a reflector. Look! This dial is set to a fixed frequency. It points to the source of a signal of that frequency only. The odds are that it's to enable spies to get into touch with each other on the ground and co-operate in their deviltry. Pretty, eh?

"This dial points toward any other electrical disturbance. If we had that dynamo running, any spy could get a line on it. Or any internal-combustion engine could be spotted or anything at all that made a spark now and then. A good way to locate any small oasis of civilization, eh?

"If we had electric lights or current or used a flashlight, sooner or later some spy would be led to us with absolute certainty, either to bring guerillas to wipe us out, or to arrange for bombs."

He stopped and laughed without mirth.

"You see how that changes the picture, don't you? If we use electricity in any form we'll be spotted. If we're spotted we'll be destroyed. If we defend ourselves against looters we'll be bombed. If we don't, we'll be killed.

"If we hang on without trying to keep anything of civilzation, we'll forget it all. If we even try to be decent, we'll be hunted down by all the scum of the earth, aided by every technical device that ingenuity can contrive! Isn't it a picture, now? What price crater-stones against that set-up, Frances? Want to make a date to cut our throats?"

X

IN ALL there had been twenty-two men originally, and eighteen women, and almost as many children ranging from babies in arms to Bob, the television enthusiast who had helped Steve carry the fish. The day before there had been fifteen men left. Today there were eleven. And of the eighteen women only twelve remained.

In their hearts burned hatred so terrible that it was a corrosive hurt. The hatred was for guerillas, of course, but also it was directed against those unknown, unseen, unidentifiable people who had aeroplanes and atomic bombs.

The refugees knew that there was a link between the guerillas and the bombs. Wherever honest folk fought to hold to everything that separated men from animals, looters turned up to destroy them. If the looters failed, bombs came screaming down from seemingly empty sky.

Perhaps not all the guerillas knew of the link. Perhaps only chosen, talented leaders had this cooperation. There was no need to encourage most looters. There are always some people who seize upon any catastrophe to behave as beasts, and in the atomic war it was an advantage to be a beast. Honest men tended to group together for mutual aid and protection.

But under the conditions of atomic war, such assemblages only made more vulnerable targets for bombs, or objectives for guerilla raids. And surely there was detailed information given

somehow to make murder and rapine the easier. Leaders had sprung up with intuitive knowledge of spots where food and victims for amusing brutality could be found. Steve now had evidence that their intuition came in small instruments, in microwave communication sets.

The people now tacitly accepting his leadership had come to the same conclusion without his definite evidence. They had been a group of farmers and their families, closely knit by blood-ties, who had not followed the common urge of normal folk.

They had been fiercely independent and their small holdings were remote from the rich lands the looters preyed on at first. They were watchful. They were prudent. They closed ranks when the world collapsed about them, and tried to go on sturdily as before. Their houses were close together, but did not form a village. For a long time they escaped notice. But they used plows, and plowed land shows up clearly in air-photographs.

A single ragged wanderer appeared, begging food. They gave it to him, and now bitterly regretted that they did not kill him with torture, instead. Because he went away, vowing gratitude, and two weeks later looters converged upon their community from three directions.

Watchfulness prevented surprise. The farmers grimly conceded to themselves that they could not fight all three bands. They attacked one, furiously, and almost wiped it out. They acquired fresh arms and attacked the second looting band with even greater success. The third retreated precipitately, and then bombs fell from the sky and their farms were wiped out.

Their families should have been wiped out too, but the men had moved their women and children to hiding, in case they failed in battle. But now they put two and two together. The bombs and the looting bands were too closely connected to be accidental. In any case they had nothing left but themselves and a few head of livestock.

THEY'D started a desperate migration for some other isolated place where —they vowed—no hungry stranger would ever fail to be killed immediately. But their animals left a broad trail. They were sniped at because the animals were food. They were ambushed because they had women with them. Word seemed to pass in every direction ahead of them. Their progress became a running, hopeless fight.

Their last animal had been lost four days before. When Steve sighted their advance-guard—only three men and only one gun among them—they were at the limit of their endurance.

When Steve held a council of war with them, the signs of their ordeal were plain.

"We can write ourselves off as dead and sit down and die," he told the men cynically. "Quite likely that will be the end of it, anyhow. But there's a chance for us to do some damage first. And there's been through all history an odd series of events that may be more promising than it sounds. Everything that's ever turned up to harm humanity has ultimately been tamed and put to use.

"Men were probably as afraid of fire, a million years ago, as wild animals are now. But they tamed it. Men were deadly afraid of gunpowder. It killed enough people! But they tamed it and used it for blasting coal and metal ores, and made roads and tunnels, and they converted cannon into internal combustion engines, and in the long run explosives did more good than the harm they'd caused.

"Even lightning was terrible, once, until it was tamed and made electric lights and television and so on. Everything that ever killed men has sooner or later been tamed. But atom bombs have seemed different."

There was a growling noise. For three hundred miles they'd fought their way through human beasts the atom

bombs had made best able to survive. They hated the beasts, and they hated atom bombs and those who used them.

"There's just one chance, and it's a slim one," Steve said, more cynically than before. "Lucky Connors found something that atom bombs make, which may mean their taming if we can work it out."

HE EXPLAINED, as simply as he could, what the crater-stones were and what they did. He met blank incomprehension. He tried again, and ran against the same inability to understand.

"They make accidents happen the way we want them to," he said helplessly. "Look here! All of you take pencils or get some charcoal from the fireplace. Each of you write down a number, without consulting anybody else. Any number. Up in the millions if you like. I'll use a crater-stone to make you happen, by accident, all to write the same number."

There was skepticism and impatience. But one man wrote, and another, and another. Then one man showed his number to another. It was 397546872. The second man displayed his. It was the same. A third man. A fourth. A fifth.

But it seemed like a conjuring trick, of no importance.

"Then we'll go outside," said Steve, when he saw their impatience, tinged with unease. "Somebody bring a bow and arrow."

He made a mark a good hundred yards away. Behind a tree. He had the bowman shoot over the tree. It hit the mark. Again and again and again.

"Call it a lucky stone if you like," said Steve angrily, when cold eyes turned toward him. "Go look around the fire where those looters were last night.

"What if you are AC and I'm DC, honey . . . you could be rectified!"

Every bolt and arrow fired from the house hit one of them! There'll be dead men down there, and you'll be glad they're dead. And there are other dead men in the brush, here and there."

Three of the men stayed, watching Steve dubiously while the others went down to see. There were shouts. The men downhill beckoned to those about the house. All went to look. One heavily bearded man stood clenching and unclenching his hands above a body.

"This man killed my son in the fighting a week ago," the farmer said. "I saw't. I don't know how you got him killed, whether by witching or what, but I don't care if the devil done it so it's done! And after all, we're alive because of you. We'll listen again and try to understand, even if it's witching."

There were eight bodies beside the burned-out fire. Three of them had guns. Two had pistols. There was other booty.

"Better go back to the house," said Steve to Frances in a low tone. She hesitated, then walked to a discreet distance, where she waited.

The slain were stripped. Clothes were precious.

"They fought each other in the dark, too," Steve observed coldly. "There should be some more bodies. We may pick up more guns. We'd better look."

They did look. They went back to the ruins of the generator plant and searched, and found nothing except a dagger which Steve picked up. Every additional weapon was valuable. One farmer stayed close to Steve, as he threaded his way through the rubble. Frances followed and stood near a shattered fountain while the hunt was going on. She gave a sigh of relief when the explorations were finished.

Steve returned to the house with the men. They felt doggedly satisfied. What Steve had to say in the way of explanation went counter to everything that had been their normal way of thought—as it had, in a sense, been unusual to him.

But at least Steve's methods, however inexplicable, passed the pragmatic test. They worked. There were nine new firearms in their possession. They credited the gain to Steve. And there were two men, in particular, who pressed him with desperate queries such as men only ask when prepared to believe anything if belief will allow them to hope. As they went into the house, Frances heard him say doubtfully:

"We'll try it and see."

They ate, mostly of fish. Afterward, Steve and the two men went off alone. Then the two men came back, borrowed extra cartridges, and plunged into the woodland back along the line of their flight. And Steve stood frowning in a harassed way after them.

"What is it, Steve?" Frances asked.

"Two women and a couple of children whom everybody believes dead or worse," he answered. "They must be hiding out somewhere back yonder. These men wanted to know if I could work a miracle. I said no. They asked if I could help get anybody who might be alive but separated from them, found and brought back here. I said maybe.

FRANCES was puzzled. She looked at Steve.

"What did you do?" she asked.

"I just tried to find out what's in the pattern of possible futures," Steve explained. "I pulled that the two men should find the missing members of their party. The crater-stone warmed. It was possible, and it was sure. I pulled that they'd find them the first day. That wasn't on the dice. The second day. It was. Then I tried this and that, trying to fumble out how they could find them, by whether the crater-stone warmed up or not. Actually, I was playing hot-and-cold, the kid's game. They've gone off. And they'll find two women and at least two kids and bring them bask, and then they'll think I'm a spiritualist medium or something! Maybe they'll want to build a church around me! And doggone it, I don't like the idea of pulling off miracles

and finding lost people and junk like that. It's—phony!"

"Then why not make an understandable contrivance that will do what the stones do, and explain how it works?"

"If I use electricity, a spy will pick up the radiation," said Steve bitterly. "If a spy doesn't a plane up in the stratosphere will! Electricity means civilization, and civilization means bombs. I'm going out of my head, Frances! Up to now, people have excluded chance from all scientific work. They had to! If your results could have come by accident, they were no good, because you couldn't repeat them. But now we've only to ensure that chance *can* produce a given result to get it every time. I've got to experiment with this stuff, Frances. I've got to! But if I try anything at all I'll bring a bomb."

The sixteen-year-old Bob came to him.

"I can fix the dynamo in two days, sir," he said triumphantly. "Only two or three layers of wire were ruined. Shall I start?"

"No, Bob," said Steve gloomily. "I'm licked. We daren't use the dynamo. It's luck we never tried. But—look here! I feel sort of humble. I'm a trained physicist and my mind runs in a groove. I got out of it once, but apparently I'm back. You aren't old enough to think in ruts, yet. Let me tell you my troubles. I'll see if you can suggest something."

Frances went away and left him talking to Bob, who was sixteen years old and had once made a television set which worked. Steve had diagnosed his difficulty quite clearly. He had been trained to think in a specific fashion, and the crater stones called for a different sort of thinking altogether.

All the experiments of physical research had always been designed to exclude, rigidly, the element of chance. Accident was anathema in a well-conducted physics laboratory. Even Steve's painstaking inquiry into the paradox of the indeterminate had come about because physics, as an exact science, had reached a stage of delicate measurement in which indeterminacy—chance—turned up in spite of all efforts.

Steve's treatise had been begun, in fact, in the vague hope of finding some way to eliminate chance in the behavior of even small numbers of electrons or other particles.

But the crater-stones did not eliminate chance. They controlled it. And Steve could not reserve his entire professional habit of thought overnight to take full advantage.

So he talked to the boy, Bob, quite humbly, because the boy would understand more than most adults and might be able to do a mental about-face more quickly than Steve himself.

Two hours later Steve walked into the house where Frances helped a mother with a sick baby. He picked Frances up, lifted her off her feet, and kissed her exuberantly.

"We've got it!" he told her explosively.

While men and women stared at him blankly, he kissed Frances soundly again, and marched triumphantly out of the house once more. His voice rose out-of-doors, calling for the sixteen-year-old Bob.

XI

LESS than two days later, Steve turned on the electric lights in the house. An hour afterward, he had turned on the electric heating-units in ducts behind the walls, so that the house became warm and dry, and the slight mustiness of the air—as a result of the building having been so long untenanted and unaired—began to lessen.

Before the day was over, he had drawn up plans for beds of humus in the attic upstairs. He would put lights and heating-elements in the attic and use it as a hot-house in which to grow food all winter.

There would be roofed-over sheds in the nearby woods, built under cover of the green leaves, which by the time of bare branches would be indistinguish-

able from the ground around them. They also would be warmed and lighted and would grow food. There would be an underground passage from the house to the wood—dug as a ditch, at night, and roofed over as it was dug before dawn of every day so its construction could not be seen from aloft—which would prevent a trail being made about the building.

Bob worked with absorption and intense authority, supervising all electrical work. The dynamo would not be used as a generator. An easier method had been found.

Steve, himself, vanished from view. He had taken a small room for his own work, despite the crowding of the building by all the newcomers. In it he labored extravagantly with utterly improbable materials—stray nails from the burned-out dynamo-shed, and salvaged wire from the damaged dynamo, and even bottles from what had been the garbage-disposal area of the house's former occupants.

Time passed and his labors grew with them. He became bright-eyed and feverish. Sometimes he stopped and held his head in his hands.

Frances heard him talking to Bob when—days later—she went to insist that he eat something.

"Faraday founded a science in three days of experiment," said Steve, "and Fleming remade a science when he stopped to notice what bread-mould had done before he heaved a tray of agar-agar into the trashcan. You and I, Bob, are trying to found an entire new civilization in a couple of weeks, and it's just crazy enough to make my head ache from time to time. I could do with about a month's sleep right now."

Frances produced a tray of food and insisted that he eat.

"If food will keep me awake, I'll eat anything," said Steve dizzily. "By the way, how is the food situation?"

"We'll do," said Frances evasively.

He shook his head, as if to clear it, and looked at her sharply.

"My dear, I think you're lying. When did you eat last, and what was it?"

He stormed when he found out that she had tried to give him all the food she would normally have, herself, in a day. It was inevitable, of course, that nearly thirty people encamped in the house made food supplies short. There were fish in the pond, to be sure. There were some rabbits and small game in the woods. And the women—after due scouting by the men—did gather occasional mushrooms and hickory-nuts and other edible wild things.

But there were not animals enough for the party to support itself by hunting, even if they'd had ammunition to spare, and there were no crops to be gleaned. Nothing had been planted this year, save in isolated communities like the one these folk had come from.

"The answer is that I am an ass," said Steve. "I've been doing research when I should have been applying what I found out day before yesterday. I've been working out schemes instead of keeping the pantry filled. If Bob, here, will put together a few wires. . . ."

He had worked too hard. As long as he kept going, he was all right, but once he stopped and tried to turn to something else, exhaustion overcame him. He tried to sketch what he had in mind, but he yawned uncontrollably in the middle. Bob leaned over his shoulder.

"I think I get it, sir," he said anxiously. "Let me try making it?"

"Go ahead, Bob. A-a-ugh! Put it together and I'll charge the generator-wires with the crater-stone and we'll have something to eat. . . ."

THE last of his words slurred. His eyes closed. He was asleep. In his absorption in the experimental work in hand, he'd gone far beyond the stage of being worn out. He slept like a log, and Frances watched jealousy over him, even when the boy came anxiously and would have waked him for additional needed directions.

He slept for eighteen hours straight while Frances guarded his rest. But she had dozed off, herself, when he waked. She felt his eyes upon her, and started up. She smiled at him.

"You want something, Steve?"

He did not seem inclined to stir.

"N-no," he said slowly. "I'm rested now. I've been awake for some time. I've been watching you. You've had a rotten deal, Frances."

"I'm doing all right. Everything's all right. You remember the baby that was sick? It played outdoors yesterday."

He shook his head.

"I think I'm a nut. I drag you about the country until I find a place for you to stay in relative safety. Then I drag in thirty assorted people to increase your danger, and you go on short rations while I spend all my time puttering and seem to forget you.

"Next you try to make me eat the food you should have yourself, and I raise Cain and go off to sleep in the middle of everything, still without seeing that you've enough to eat. And then you sit up by me in case I want something. You've had a rotten deal from me."

"I'd have been dead, and very horribly, but for you, Steve," she said quietly. "I was half-starved when I met you, and it's only been the past couple of days that we've been on rations. And I'd been hiding from looters in sheds and under leaves and—everywhere, and now I live in a house which has electric lights and books, and there are people around me that I'm not afraid of. And sometimes you actually notice me, Steve." She smiled at him, her eyes crinkled. "Actually, you sometimes notice me! I'll do."

He sat up and grabbed at her arm.

"Notice you? What the devil do you think I'm working for? Why do you think I want to have safety and civilization and decency back in the world again?"

"I couldn't guess," she said with an air of breathless interest. "Do tell me, Steve! Why?"

He seized her in exasperation, and she smiled at him again, and he kissed her. And they sat on the floor together, with his arm about her shoulders, and she looked perfectly contented. Even when, some ten minutes later, he was saying absorbedly:

"The kid pointed out that extremely short waves won't go around sharp corners and can't travel through water. So we fixed our switches so they give off nothing but extremely short stuff when they are opened and closed, and surrounded them with water. Not too tricky, you notice. I can't help thinking as I was trained to. The children in this gang will run rings around me as scientists when they're a bit older, with the new stuff that's bound to come."

Frances listened, but she looked most often at Steve's hand, tightly holding her own. He went on zestfully:

"With the trick of exploring the pattern of possible futures, and finding out what's possible and what isn't, it actually took me only two hours to work out a gadget to do everything the crater-stones will do.

"I can put any amount of power into it. But I needed electricity to try it, and the dynamo was a wreck. So the kid came up with an idea. One of the most annoying effects of indeterminacy is the shot effect, the thermal noises you get in high-gain electronic equipment."

Frances didn't understand but she didn't let Steve know it.

"How can the difficulty be overcome?" she asked.

"Free electrons, roaming around in a wire, by pure accident sometimes pile up at one end," Steve went on. "When they do, that's an electric current. The kid says those currents are accidents and could I make them when I wanted to. And that was all I needed. Of course I could! I took a bit of wire and used the crater-stone. All the electrons in it could only move toward one end, as if Clerk Maxwell's demons were on the

job. Of course, that cooled off the wire. And of course it gave a current!"

He looked at her triumphantly.

"Then I wondered if that accidental condition could be made permanent, and it could. After I've treated a bit of wire, the electrons can only travel in one direction in it, and so they do. They pile up, new free electrons form where they came from, and we have power, the wire gets cold and absorbs more heat to produce more electricity, and it's a D.C. generator with no moving parts, that needs no fuel, and that will keep on working till the cows come home. We'll never worry about fuel any more. We can run machines and automobiles and ships and airplanes on heat we take out of the air. Sunpower, when you think of it. That's a good first step toward a new civilization."

Frances smiled warmly at him. He freed her hand to gesticulate.

"I was working then with electrons. I tried it next with molecules. They have random motions because of heat. It's more pronounced in gases and liquids, but it's always there. When I was able to make all the molecules in a glass of water try to move in the same direction at the same time, I knew I had the next big thing lined up. I was trying to fix some iron the same way when you came in to try to make me eat."

STEVE stopped short and looked at her. His expression became one of intense self-disgust.

"Lord, Frances! Here I'm talking rot instead of going after grub for you! Why do you stay here and listen, anyway?"

"I thought," said Frances ingenuously, "that maybe when you got through you might kiss me again."

They went out of the laboratory some ten minutes later, with Frances smiling contentedly and patting her hair back into place.

"And we're both hungry," Steve said to her, marveling. "It must be love!"

They were laughing when they went in search of Bob. He had labored magnificently, but his creation looked like nothing that had ever been before on earth, or in the heavens above or the waters under the earth. It was an incredibly intricate arrangement of bits of second-hand wire and salvaged bottles from the former trash-dump. Some of the bottles were filled with liquid and had wires inserted in them, but others seemed completely empty save for wires which had no apparent purpose.

"These are our jewels, I think," said Steve. "I'll check it over and get some of our whiskered allies to work it. Since Bob, here, made it, they may not think I'm a witch if it works. But they'll keep him busy for the next month or so explaining it to them."

He verified the meanderings of wires which were definitely not in any circuit which could be classed as electronic. It was something completely new, and it looked insane.

"A good job, Bob. Let's show it to the others."

The boy gulped, and ran. In minutes the others came to see. The boy stood back, trembling with excitement.

Steve smiled at the men who still regarded him with a mixture of faith and dark suspicion.

"This is a machine to cause accidental happenings," he said. "Our young friend Bob made it. He'll explain to you how it works. There are all sorts of accidents. Some are good ones and some are bad. This is supposed to cause good ones." He pointed to the bearded man who had been first to say that even if Steve had defeated the late looters with the devil's aid he was glad of it. "You, there! If you take hold of those two handles and think of what we need to have happen, I believe you'll get your wish."

The bearded man stepped forward. His face contorted with emotion. He held the handles.

Nothing happened.

Steve touched his shoulder and he stepped back.

"I wished," said the bearded man fiercely, "that every murderer and looter in the world should drop dead, and every man who had anything to do with the bombs!"

"I'm afraid our gadget isn't up to anything on so large a scale," said Steve drily. "We'll have to be a bit more modest. That couldn't happen by accident. It couldn't happen by chance."

The boy whispered to Steve.

"But it works, sir! I tried it. I—pulled for it that some day I'll know as much as you do, and the wires glowed!"

Steve looked at him, and could make no comment. He turned to the other men.

"Somebody pull for something that's simply improbable, he suggested curtly. "I want you people to realize that this is simply machinery but that it does produce a definite result."

A YOUNGER man took the two handles. One of the bottles with wires and liquid suddenly bubbled. The wire seemed to grow incandescent under the liquid. It stayed that way. Another wire, exposed to air, glistened, wetly. The wetness clouded. The wire covered with frost. Then, gradually, the incandescence died away. The young man, a little frightened, let go of the handles.

"We're all on short rations," he explained apologetically. I wished the snares we've got in the woods will get filled up so we'll all have a good supper."

"That is what science is for!" said Steve approvingly. "Right now, anyhow. Let's see what we see."

An hour later the men began to come back from their round of the snares. They had more than twenty rabbits, two ruffled grouse, and a partridge. Steve nodded in satisfaction.

"I guess we can keep game coming in to feed us," he told Frances. "But we've got to be careful, at that. If there's a migration of game this way, there'll be people following it. We'll have to go in for wild-fowl, instead of ground-game. Say, a dozen or so ducks or geese or whatnot to land on the pond each day.

"Somehow too, we've got to get vegetables, and some iron and stuff to work with." He sighed. "I'm not going to feel comfortable, though, until we've got some kind of a defense against atomic bombs and attacks by the guerillas who might be sent to hunt us down."

"I wish you had more time to be with me, Steve," Frances said wistfully.

"I wish that those two men who went off to hunt for the women would come back," said Steve. "And Lucky would be handy to have around. I can cook up gadgets, Frances, but I guess I'm not practical. Everybody's been hungry because I wasn't. And we've got to be practical.

"The people with planes and bombs do know that something odd happened around here. Their man had reported it before I killed him. And it's a fact that, if we're let alone, sooner or later we'll be dangerous. But right now they could crush us as we step upon ants."

There were thirty people in the house, of whom Steve and a sixteen-year-old boy alone could make a device which controlled chance, and therefore constituted the whole body of useful science left upon earth.

The rest of the continent of North America was a waste, roamed by ever-more-desperate looting bands who inevitably tore down any traces of civilization they came upon, guided by the spies of people who were resolved that America should become unpeopled save by savages.

But the two men who had set out days before, came back that afternoon. They had two women and three small children with them. The women and the children were nearly half-starved. One of the women had been a prisoner of a small band of looters, a fragment of the bands which had hunted the refugees across country. Her captors were now

dead. The two men were filled with bitterest rage. The shorter of the men had four fresh scalps dangling on his belt.

That was disturbing. Civilization could not be based on scalps. But as Steve was thinking it over in his mind, later on, there was a hail from the new-fallen night.

Lucky Connors had come back.

XII

UTTERING a cry of delight Frances hugged Lucky and Steve found himself unexpectedly jealous. But Lucky put out his hand and grinned.

"You been going places, fella," Lucky said. "You really got things done. Whew, electric lights? You got a whole tribe around you. You got plenty of grub?"

"We'll do," said Steve. "I've been needing you, Lucky. I seem to be the absent-minded professor type. But there's a kid here who used to play with television."

"Migosh!" said Lucky. "Stop him, fast! Those guys with planes and bombs can track down anything like that. Look!"

He unslung a pack from his back and tumbled out a half dozen small flat objects.

"These here are some kinda short-wave sets," he said earnestly. "Spies for the guys with planes carry 'em. They can spot anything that runs by electricity with 'em. They can talk with planes with 'em. And they can find each other and know each other with 'em. If there's somebody playing with television around here he'd better quit right off!"

Steve nodded.

"We're safe as far as that goes. I got one of these things too. If you open them the wrong way they blow up, though."

Lucky grinned again. They were in the big room of the house with electric lights, but as there was a serious shortage of bulbs, a great fire was burning in the fireplace. The farmers, who now gave Steve great respect, had gathered to listen. Lucky seemed to be in fine fettle.

"I got me a spy, early," he said contentedly. "Remember I told you I was gonna hunt down one of the fellas who report to the guys doing the bombings? When I left here, I pulled hard to meet one of those fellas. First day after I left, I struck on south. Then west. I went on three days and never saw a living soul. I didn't feel agreeable, and maybe it was just as well.

"On the fourth day I found a dead man, new-killed. He looked like he'd been eating regular, so I hunted for a trail and went on after the folks who'd killed him. 'Bout nightfall I caught up with 'em, setting around a fire. I went in to the fire and says, "I'm Lucky Connors and I'm a gambling fool. I got a rifle I'll gamble against grub or what have you, with y'own dice.' That kinda broke the ice."

Steve grimaced. With a crater-stone, controlling chance, Lucky Connors could not lose shooting crap unless he wanted to, no matter what dice he rolled.

"Them that woulda killed me for the rifle, figured it'd be more fun to roll me for it," said Lucky. "But I cleaned up the camp, using their own dice, and some of them was the crookedest dice I ever did see! Then I ate hearty and said, 'I'm Lucky Connors, fellas, and I can't carry all this stuff I won. You fellas take it back and let me in on the party, whatever it is.' And I set back and waited for 'em to call the play. But I was in."

Lucky paused and grinned.

"They coulda killed me, but every one of 'em wanted to find out how I made their own dice misbehave," he went on. "So we set around cordial and they told me what they were aiming for. They'd heard there was a farm that hadn't been raided and there was a coupla women and plenty of grub there, so they were going over to see. So I joined 'em for the raid, and I pulled for the folks we

were going after to light out before we got there."

He pulled forth a pipe and tobacco. He filled and lighted his pipe. The watching men stirred hungrily.

"Smoke up on me," Lucky said hospitally. "I got some more."

He tossed a bulging bag to the nearest man. It went from hand to hand. Some of the men had not smelled tobacco for weeks.

"They'd cleared out, all right, but we looted the place of grub," he added. "We burned the house, too, and set fire to the crops in the field. It was the boss of the gang who done that. That fella kinda —uh—int'rested me. How'd he know about a farm that hadn't been raided, and why'd he want to burn corps that coulda been come back for after they was ripe?"

THE atmosphere was not cordial. These men were farmers, too, and half their number had been killed by looters exactly like those Lucky said he'd joined.

"I kinda figured things out," said Lucky. "If I was right, he'd have some kinda report to make, that night. So I didn't go off to sleep like the others. I hid out and watched. And when everybody else was snoring, the boss of the gang he walked off beyond the fire, and he listened a while and he went on a ways farther, and then he started muttering to himself.

"I let him talk himself out, and when he quit and started back to the fire I jumped him. Knocked him cold. I tied him up and heaved him on my back and carried him till I was tired. Then I made sure he was tied tight and went to sleep."

Steve felt a light touch against his shoulder. It was Frances, sitting on the floor beside him to listen to Lucky. She leaned comfortably, unconsciously, against Steve. Any trace of jealousy he might have felt evaporated on the instant.

"Come morning I woke up with a shotgun in my middle. There was a man and two women there, and the man was ready to blow me to here-and-gone. He was the farmer that we'd burned his house and crops. He'd watched us loot and burn his p'ace. He'd have shot me whilst I was asleep, on'y he recognized the man I was carrying all tied up as the guy who'd fired his wheatfield. So he was curious to know what it was all about, and he meant to ask me before he killed me. I told him."

Lucky grinned and puffed on his pipe. He enjoyed an audience, did Lucky. A little while before, most of his present hearers had been favorably impressed by his present of tobacco, and then turned to instinctive hatred by his narration of a share in a guerilla raid. Now they wavered. They did not know what to think. And Lucky enjoyed their indecision.

"That guerilla boss, he sure got eloquent. I never heard any man beg for his life so hard. So the farmer, he took my word for what I was after—the evidence was pretty good—and we staked that guerilla boss out and we built a fire and begun to ask him questions. When he started lying we stripped him—that was when I found the first one of the dinguses, Steve—and got some brands ready, and then he told the truth."

The eyes of the refugees burned, now. They no longer hated Lucky. They waited hungrily to hear of torture.

"What nationality was he, Lucky," Steve said suddenly. "What language did he speak into that transmitter?"

"Huh!" said Lucky scornfully. "He was nothing but a lowdown looter! He talked American same as you and me. He'd been bossing a kinda small gang, looting and burning and killing and fellas would turn up and join and drop out again, and he wasn't making out so good. But a fella turned up and offered confidential to give him guns and whisky to build his gang up with if he'd take tips by short-wave radio and report what he had seen and done."

LUCKY turned and gave Steve a quick glance.

"You and me, Steve, woulda shot that guy for a spy, but this boss guerilla took him up. And the fella gave him a short-wave set and told him how to use it– but he warned him not to open it—and sure enough, next night the short-wave set told him where to find a cache of whisky and a few guns, and he began to prosper. He had thirty—forty men under him when I joined up. Mostly they were raiding farms that the short-wave told him about, burning 'em and getting the grub and killing the people just for the deviltry of it."

He paused.

"It took us a right long time to get all the details outa him," he added drily. "Once we had to start a little bit of fire on his middle. But he told us everything he knew, and I treated him fair." His tone was virtuous. "I done just like I promised I would, if he told me everything he knew without holding back none."

A bearded man leaned forward, his eyes burning.

"You didn't let him go, man!"

"Shucks, no!" said Lucky in surprise. "But I kept to my promise. The farmer wanted to do it, so I let him, but that fella got just what I promised him—killed quick, with one shot. It took a lotta argument to get him to be satisfied with that, but I—uh—persuaded him." Lucky's eyes glowed with a satisfaction that comes when a long pent-up hatred is released by brutal revenge.

Frances' hand, in Steve's, tightened convulsively. Steve made no move. There could be no ethics in a war such as was now being fought.

"And after that, Lucky?" Steve said evenly. "That's only one transmitter. Here are a half dozen."

"Oh, we found out how to get 'em from him. There's other fellas like him that got transmitters, and there's fellas that pass 'em out. The ones who pass 'em out are from the folks with planes and bombs. One of those dials is for locating another fella who's got one. It's so they can join up and know each other and not waste time fighting each other. He explained all about it. So the farmer and me, we used that one. We set it to make a kinda call, like he told us how, and we set and waited. Two-three days later some fellas come by and one of 'em told the others to go on ahead while he set down. When his fellas were outa sight, he came straight toward our sending set. I killed him."

Lucky's air was tranquil; his tone conversational.

"That fella had two pistols and more ammunition than you'd think one man could carry! And he had another set just like the one I had. I give it to the farmer and he said he was gonna go in the business of sending out calls for fellas with those sets. They'd always arrange to meet him quiet—naturally. And it'd be profitable work, when you think of it. Anybody hiding out would give a lotta grub for a gun or pistol and some shells, and him and the two women, all having guns, could take care of themselves easy.

"Him and the women went off to where he said he knew there was another fella hiding out. He said he guessed he'd set his friend up in the business too, if it turned out good. In fact, he might set up several fellas, killing off men with sending sets that talks with the folks that have planes and bombs.

"So I arranged a recognition-signal that everybody in that business would use to know everybody else, and we parted. A right nice fella, that farmer. He said he hoped I'd come to see him some time if things ever got better and he got his house built back up again."

Lucky seemed to consider his story ended. He puffed on his pipe and grinned at his audience.

"That still accounts for only two sets," said Steve. "And you've got a half dozen."

"Yeah," said Lucky. "It was a kinda interesting business. And it's surpris-

ing how many decent folks there are around, even yet. Hiding out, all of 'em, and half-starved, most of 'em.

"But I set three-four of 'em up in business, and they're kinda getting a little confidence. They're even daring to get in touch with each other. I told 'em it was plowed fields that tip off the planes, and the planes tip off the guerillas, so they oughta make out better.

"They'll plant stuff in little patches. No furrows. Not neat fields. That'll help a lot, all by itself. And they'll pass on the word. It's bound to spread, when all the sending sets in this locality get wiped out and the fellas that are hunting 'em have to go traveling to stay in business."

THERE was a deeply satisfied silence all around the room. The men who had suffered so horribly from guerillas had, at last, the satisfaction of knowing that a small dent had been made in the disaster that had befallen civilization.

There was still no safety for them, however. There was still no real reason to hope. Their food depended upon the operation of a device to control chance, which they did not understand and in which instinct forbade them fully to believe. And they were definitely, terribly vulnerable.

This meant not only against guerillas and bandit gangs armed and directed from the planes which could drop bombs. They could be blasted at any instant of any day or night if the folk who had destroyed civilization heard so much as a whisper of a suspicion that they clung to anything—those folk who had been doomed to die.

And there was worse, which they did not know. When the house was filled with the minor turmoil of people finding their resting-places for the night in so crowded a menage, Lucky Connors plucked at Steve's sleeve and beckoned with his head. Steve followed him out of doors.

"Frances looks okay, fella," said Lucky.

"I think she is," said Steve. "I hope so, anyhow."

"Yeah." Lucky was silent for a moment. "She—uh—understood why I went off?"

"Yes," said Steve uncomfortably.

There was a pause. Then Lucky shrugged. He said in a different tone:

"Things are coming to a head, fella. On my way back here I picked off one last fella with a sending set. He and his gang seemed to be headed this way. It worried me. I—uh—made him talk. I guess he figured I was somebody double-crossing the fellas with planes and bombs. Anyhow, he'd been told to hunt up this house and find out what was going on here.

Steve frowned. "Here, eh? That's bad. What were his instructions, Lucky?"

"If it was guerillas like his outfit, okay—he'd get paid off in whisky and grub for finding it out," Lucky answered. "If it wasn't, he was to report that, after wiping everybody out if he could. He ain't going to report anything. I don't know if his gang will come on here or not. But when he don't report, something's going to happen! The folks who smashed up this whole country are interested in us. They know that something's wrong somewhere, with all their spies vanishing like they been doing. They're going to tighten up all around. They're picking on this place to start. What are we gonna do about it?"

Steve took a deep breath.

"I guess we'll have to fight," he said somberly. "There's nothing else to do. You know, it would be interesting to know who they are or where they are or what the devil we can do about them. I feel like a gnat trying to start a fight with a locomotive."

XIII

KNOWING the extent of the danger which threatened, Steve made no pretense of going to sleep that night. Followed by Lucky Connors, he repaired

to the room he'd set aside as a laboratory, and resumed his labors. But this time he had very specific objectives. Lucky Connors couldn't be of much help; he merely sat on a bench and watched Steve. And Steve's system of work semed lunacy, at that.

Steve took one of the six child's copybooks and wrote in it. Then he took the handles of Bob's elaborate apparatus of wires and stray objects, and stood frowning for an instant. Nothing happened. He crossed out what he had written and wrote something else. He held the two handles again. The process went on and on. After nearly an hour, two wires in a bottle of clear liquid glowed incandescent, and a bare wire turned white with frost.

"That helps," said Steve. He surveyed what he had written and did not cross it out. "I'm playing hot-and-cold, Lucky. This thing does the same things the crater-stones do, and I'm trying to find a way to survive, in the many possible futures that lie ahead. The crater-stones get hot when they work. This thing makes those two wires glow. It gets its energy from the wire that turns white, changing its contained heat into electricity and dropping away down in temperature in process."

"Whatcha trying to do, Steve?" asked Lucky, obviously puzzled.

"Right now I'm pulling for a way to make a record of a thought-pattern, so it can keep on pulling for something even when my mind gets tired," Steve answered. "Nobody can hold a thought more than a second or two without some change. In the old days we had gadgets that did everything but think. I've got to make one that will wish!"

Lucky shook his head.

"Too deep for me," he admitted. "Way over my head."

"I'm playing hot-and-cold," he explained Steve. "You remember how I found out this house was still standing before I saw it? I'm doing the same thing now. I pulled for it, just now, that I'd find a way to make a thought-record on iron. The gadget didn't light up. So it wasn't in a possible future that I could make a thought-record on iron. I went on, pulling for every possible material at hand. It just lighted up on protein.

"It is possible, in the future to make a thought-record on some sort of protein. Now I've got to find out what kind and how. When I get close to what I want, I'm hot and this gadget works. When I'm not, I'm cold and nothing happens. It's a wacky way to do research, but it's fast. I wish I were cleverer, though. I might be able to make it a game of ten questions and get my answers in a real hurry!"

He wrote in the copybook and held the handles, frowning. Nothing happened. He crossed out the writing and wrote something else. Nothing happened. He crossed out and wrote, and crossed out and wrote. Lucky watched for a long, long time. Presently he yawned. Ultimately he dozed off.

He woke, cramped, and Steve was still busy with the same absurd routine. It seemed to have no relationship at all to the situation facing him and all the rest of the world. It seemed a dreary and useless rigmarole, while the situation was desperate and apparently irremediable. The whole earth had exploded in a welter of destruction, in which cities vanished in the blue-white glare of atomic explosions.

Nobody knew who had started the destruction. No nation knew what other waged war against it.

IN ONE sense it was not war at all, but a series of international assassinations in which all destruction was done anonymously and every nation cried fiercely that it was attacked and no nation admitted attacking. Now the whole earth was pockmarked with glass-lined craters where cities had been, and if any victorious nation actually survived, it was only after such destruction as no vanquished nation had ever before endured.

But one nation obviously had survived. There were some folk who still had planes and bombs. They had arms they could give to guerillas to complete the ruin of a shattered America.

They had microwave communication sets with which to guide those bandit allies in the reduction of America to sheer savagery. They had monster aircraft which flew in the upper stratosphere. And unquestionably they had bases in which the arms and bombs were stored and the aircraft serviced, and from which the organized production of chaos was controlled. They had spies, who must number in the thousands.

Their bombing and fighter forces must be huge. Their technical facilities and resources must be on a relatively gigantic scale, compared to one small group of people, some thirty in number and with exactly one weary physicist among them, who could marshal only a dozen or so firearms and a single contrivance of salvaged copper wire and reclaimed bottles and clumsily straightened nails. No self-respecting junk-yard would have given room to the equipment in Steve's laboratory. But it was all he had, and he worked it grimly. With it he fumbled incalculable possible futures for a path to safety. Now and again two wires glowed in a bottle. They were the markers on the path.

When red dawn came he still worked, and in the same way. Scribble in a book. Hold two handles and think—cross out the scribble and scribble again. Hold two handles.

The strain was monstrous. Such mental effort was much worse than any physical labor could have been. But he went on like an automaton until the sun was clear of the horizon and climbing higher yet. Then, suddenly, the wires in the glass bottle glowed yet again. When they did, he dropped his hands in a gesture of worn-out completion.

But he could not rest, even yet. He had to make sketches of the new circuits, with the materials specified and all connections indicated. And then he had to set to work to make them.

When the sound of stirrings began in the house, he stopped and hunted up the sixteen-year-old Bob. He handed over the sketches for two devices and dully explained such details as the sketches did not show.

The boy scanned them eagerly and set to work at once. And Steve went back to the making of the third gadget —and fell into the numbed sleep of mental exhaustion before it was quite finished.

Time passed. Off somewhere a dozen miles away, a band of guerillas woke in a quarrelsome mood. Their leader had vanished. Because of his absence they'd drunk up the whisky he occasionally produced as if by magic, and had fought each other blindly.

This morning there were three dead men in camp, and still no leader.

They argued in a sultry fashion while they ate what food remained. They had no plans. They only knew that their leader had intended to examine a house a dozen miles away, a house which might be the headquarters of a rival band, or which might be the hideout of folk who could be robbed.

In either case it was a destination. Rival guerillas could be joined, most likely. Refugees could be killed, quite certainly, and refugees usually had some women with them.

AS THE morning wore on they quarrelsomely agreed to carry on. At about noon they began a shambling march toward the house, bunched and careless and pettish. They did not take care to stay among trees. Where they came to weed-grown fields they crossed them instead of skirting the edges.

At the house, the boy worked feverishly, and two intricate, lunatic agglomerations of metal scraps and oddments grew to completion under his hands. He went to hunt up Steve. He found Steve just awaking and going on desperately with his part of the task.

Outside, Lucky fretted because there was no sign of Steve. Frances fiercely tried to stop him from going into the laboratory.

"If he fell asleep, let him!" she protested. "He works all the time, Lucky. He never rests."

"But there's a lot that's due to happen today," Lucky said uneasily. "There's a gang coming this way and all."

"You're here," said Frances. "You've got a crater-stone. You'll do something about it."

"Shucks!" said Lucky. "You think I'm a friend of yours, don't you? Well then, let me be a friend of yours! There's big doings on the way. I don't know how to handle 'em, but your friend Steve does—or he seemed to think so, anyway. I'm going to call him. Things need doing."

He knocked vigorously on the door of the laboratory.

"Rise and shine, fella!" he called. "What do we do?"

Steve came out of the laboratory, carrying the most improbable of freakish creations under his arm, while Bob went on anxiously ahead to where he had assembled two more.

"Come along," said Steve. "We've got to mount this stuff outdoors."

He led the way up the hillside behind the house, where the boy was at work bracing an absurdity upright. One of the two things he had made was merely meaningless tangles of wire and bottles on a bit of charred board. The one he braced so carefully had been built around a section of three-inch sapling, which rested in a forked stick on two scorched, approximately straightened nails. It could be aimed like a gun.

"These are finished, sir, like I told you," the boy told Steve worshipfully. "I don't get what they'll do, though."

Steve put his own device down. He began to check the ones Bob had made. "They'll all hook together," he said. "The one I just finished is a thought-record dinkus. It'll hold a wish or a thought or a condition to be hooked into the others. It has to work, because I pulled that it would and it was in the pattern of possible events. That one—" he pointed to the section of sapling in the forked stick—"that's a hypothetical probe. It's like radar, in a way, but it can handle the output of the other, which is a generator-maker. You know how we make our electricity, Lucky?"

Lucky shook his head.

"We enhance thermal noises," said Steve, still checking the Goldbergian assemblages of odd parts. "Shot effects, you know. They're natural, spasmodic currents in all bits of metal. They're accidental. So since we can control accidents, we can make them happen constantly and much stronger than in nature.

"We make all the free electrons travel one way and that cools off the metal and produces current, and the cooling absorbs more heat to make more current. We can make that action permanent, and it gives up all the power we need. This gadget will make it happen at a distance, but the effect will only be temporary."

"You said this was a hypo-hypo—" Bob said unhappily.

STEVE untwisted one connection the boy had made, and twisted it in another place.

"You did good work, Bob. A hypothetical probe ought to be a variation on the way we've been finding out things. Up to now we've been pulling for something to happen, and if the crater-stone or the thing you made for me worked, we'd know it would happen. But this is a probe. It doesn't say, 'I wish this to happen when I do so-and-so.' It says, 'If did so and so, would this happen?

"Here! It looks all right. I'll try it. I hook in the thought-record—so, to ask the question, 'If I went along the line the probe points, would I see a plane?' We can't go straight up, you know, so it has to be hypothetical.

"With a crater-stone, Lucky, we'd get

no answer. Finding a plane by going straight up wouldn't be in the pattern of possible events because we can't go straight up. But it's in the pattern of ascertainable facts, so this thing ought to work."

He swung the block of wood skyward. Wires glowed suddenly. He stopped moving the device.

"There's a plane up there," he said quietly. "The thing works like radar. Yes, there's a plane up there!"

Lucky heard a distant screaming sound. Far away, black smoke mushroomed upward in a swift-moving, billowing mass. There was a second distant eruption. A third and fourth and fifth. Then the concussion-wave and the sound of the first explosion arrived simultaneously.

Leaves overhead jerked spasmodically.

The sound of the first explosion was a crushing roar. The second sound came, and the third and fourth and fifth. Each was louder than the one before. Each was nearer.

"Hey!" said Lucky in a queer voice. "They're coming closer!"

Steve's hands moved swiftly, with incredible speed. He was making connections with his fingers. Bits of wire tore the flesh, and when blood spurted he paid no heed.

"We're going to be bombed," he said with savage brevity.

Smoke spurted from twin explosions two miles away, then from three more, a mile and a half off. A bombing pattern was being established. Everything within an area four miles long and two miles wide would be obliterated. But it had been extended a little because a band of moving figures had been sighted from above.

They were, of course, the quarrelling, leaderless guerillas whose leader had vanished the day before. They moved toward a spot where mysterious events had been reported. The guerillas made no reply to microwave signals sent down to them. Therefore they seemed a part of the mystery, perhaps the occupants of the house, and they were bombed.

Then the pattern of bombs moved toward the house, faster than any human could flee. A bomb went off a mile away, and then two others flanking it. The concussion-wave staggered Steve. But he said harshly:

"Got it!"

He twisted the last two wires together. Other wires, bare wires, frosted suddenly as their internal heat became a surge of electricity and they drew more heat from the air around them. Two little wires in a bottle glowed brightly.

Then the sky cracked open. Wide!

XIV

CONCEALING leaves were blown from the trees by the violence of the explosion. A bare half-dozen panes of glass left in the house, splintered into fragments. Men reeled from the shock of the blast overhead. The world was filled with thunderous bellowing tumult which was the soundwave of detonations overhead.

Its echoes and re-echoes rolled and reverberated among the hills.

The noise died away, grumbling in the distance. Birds—at first paralyzed by fright—flapped and twittered among the branches, and then took to wing in panic-stricken flight.

Almost directly above the house, some four thousand feet up, there was a monstrous, globular mass of black smoke. It writhed within itself. But a wind shifted it away, leaving streamers of sooty vapor behind.

And then, very high indeed, there could be seen another globe of black the size of a football. That was probably fifteen thousand feet up. Beyond it there was another at a likely twenty-five thousand feet. The size of a pea, and possibly others higher still. They were bombs which had detonated as they fell.

There was silence for a brief time

only. Women began to call shrilly to their children, as if a mother's arms could protect the children from bombs. One woman sobbed throatily. Lucky Connors stared up, his face gone white and drawn. Bob also gazed upward with awe-struck, shining eyes. And Frances looked at Steve with the luminous expression of infinite pride a woman displays when her man has done something remarkable.

Steve set his lips.

"I guess that's that. They'll send over an atomic bomb next. Here! Where's some extra wire? We've got to put a wide-angle extension on that probe! It's got to work like a fish-eye lens!"

He snatched up scraps of extra wire. He began to form a reflector—radar-fashion—for the end of the apparatus made in the sapling-trunk.

"I can do that, sir," the boy said quickly. "Like a one-eighty beam reflector, two ways?"

Steve nodded. He turned feverishly to the other mazelike masses of wiring.

"Got to cancel that thought-record and make another," he muttered. "There's not much time."

His fingers bled. He shook them impatiently. He worked—he nodded to the boy. He fitted the newly-formed shape of wire to the end of the thing he had called a probe. He fastened it in place and aimed the sapling trunk skyward.

"Now we'll see what turns up. They should guess what's happened."

It was broad daylight, just past noon. But at that instant there was a flare of light at the very horizon which was brighter than the sun itself. It was monstrous in size. It was as if, for the fraction of a second, the sun had been brought terribly close to earth and had poured out a monstrous radiant heat. Then the light winked out. The heat ceased. There was nothing where the light had been.

Steve's tensed body went lax with relief.

"That did it, all right!" he said shakily. "That was an atom bomb going off beyond the atmosphere. They must have learned what happened to their bombers and started a rocket for us as soon as they could aim it."

SOMETHING made a shrill whistling noise overhead, and it rose in pitch and rose in pitch, and hit heavily into a hillside two miles off. It did not explode. Nothing at all happened.

"That would be a bombing plane, I guess," said Steve as shakily as before. "It took all that time to fall."

Other shrill whistlings came to the ears, two and three at the same instant. They sounded from every side; but every one of them ended in dull impacts. Some were far, far away. There must have been a dozen in all.

Frances' eyes were frightened.

"There was a fleet of planes overhead —to bomb us! And—and—" She stared at Steve.

"And they ain't there any more," said Lucky. He swallowed. "I never been so scared since I got my luck. That was a atom bomb, fella?"

Another lurid, monstrous flare blossomed on the horizon. Lucky flinched.

"Yeah," Lucky continued, answering his own question. "And there was another one. And another!"

A third instantaneous, weirdly silent flare came as bright as the sun itself and many times larger. Three atom bombs had exploded in empty space as they rose curving from below the horizon to fall upon people who dared to resist chaos.

Steve sat down suddenly and put his head in his hands.

But sixteen-year-old Bob spoke raptly. "I got it!" he cried. "Golly, I got it! He hooked on a generator-maker circuit, so the probe threw a beam that made generators outa every piece of metal it hit. Every one! The bombs that were falling were turned into generators. The different pieces arched where they were close together. They heated up thin places in the fuse. They burned into the detonator and they set

it off. And they exploded, every one!

"Next, the planes—they got to be thousands of generators all hooked together, every piece spitting blue-white fire. Every wire to every instrument and every control became charged and started pouring juice into everything all at once! Every control burned out! Every motor jammed!

"Where the ends of every bit of metal wasn't spitting electric arcs, it was getting cold as liquid air, and brittle, with no strength to it. It'd break, then—Oh-h-h! I got it! I got it! I got it!"

Steve looked up. Frances gazed at him, wide-eyed. He lifted himself rather heavily to his feet. He put his arm around her. He opened his mouth, and closed it.

"Let's get something to eat," he said at last. "We're safe now for a while, but we can't stop with being safe! We've got to fix these people so they can't do any more damage and then I guess we can start getting civilized once more."

He kissed her almost absent-mindedly as he walked toward the house with his arm around her waist.

The refugees were shaken and scared, but also they were savagely triumphant. Food for Steve was handed to Frances to serve him, but most of the people who now relied on him were too much in awe to ask questions. They clustered around the boy, who was one of their number. He made voluble explanations, his eyes shining. There was the probe, which was simply a variation on the apparatus which acted as an artificial crater-stone.

To get information from that apparatus or from the crater-stone, one used it to explore possible futures, automatically causing a change in the probability of future events. But the probe explored the factual present, with no effect upon probability in itself. It worked like an infinitely superior radar. It could be adjusted to hunt for anything: Anything at all. The generator-maker was actually a more effective weapon than the atomic bomb, for defense.

If every separate bit of metal in a complex bit of apparatus—such as a bomb-fuse or a bombing plane—became separately charged with high-voltage electricity with plenty of amperage behind it, that apparatus would be destroyed.

The generator-making field created just such a condition when it was in action. It was rather as if a beam of magnetism could be projected, to make temporary tiny magnets of every sheet and rivet and wire in an aircraft, with all the north and south poles emitting electric arcs. And where the poles were far apart, the middle dropping to the temperature of liquid helium, when no metal has either strength or elasticity.

The third piece of apparatus simply controlled the other two, but no atom bomb could penetrate such a defense, nor could an atom bomb provide a defense against it.

THE three devices were startlingly simple, when the functions of which they were capable were considered. A civilization based upon controlled chance would not merely be one in which there could never be danger from atomic bombs.

Steve called a council of war that afternoon. The deliberations were interrupted, once, by a drum-fire of distant detonations. A sentry, outside gave the clue. When the first boomings sounded, he'd whirled to look. And he saw smoke-puffs just over the edges of far-distant hills. As he stared, infinitely tiny specks darted over those same hills and instantly exploded.

"Ground-level planes," said Lucky, wisely. "Trying to sneak up at treetop level. In the last war, the early radars wouldn't work except on high-level stuff. But these fellas can come up behind hills, and when they come over 'em, the dinkuses mess 'em up."

A thought had occurred to Steve. His eyes narrowed.

"They might try ground troops, too, but I can change the thought-record to take care of that, too," he said. "The

thing is that they're going to keep on trying to get us. Yet I doubt that they'll anticipate an attack from us very soon. They couldn't possibly detect the stuff we're using, so they probably think we've got radar and power-beams with a couple of hundred thousand horsepower in them. That sort of stuff wouldn't be portable. They'll expect us to stay on the defensive and try to build up what they think we've got. So we'll attack them before they have a chance to figure things out."

Frances looked anxious.

"What do you mean to do?" she asked.

"We'll duplicate these gadgets," Steve said. "We'll carry the extra ones with us. We might make an extra set, for safety, here, too. I think—hm—four or five of us should be enough to make the attack with. But I'll have to use the probe and locate their nearest base."

"It's a coupla hundred miles south," said Lucky. "I found that out. There's some terirtory there that folks go into and never come back. A place about fifty miles across."

"Then that's it. Who'll come with Lucy and me?"

There was almost an uproar. Eleven men among the refugees now considered Steve their chief. They had regarded him at first with suspicion and then with unease. But after witnessing what had happened today they trusted him implicitly and they looked forward to slaughter of the folk who used planes and bombs to wreck a world. Their eyes burning, to a man they demanded to go.

But Steve chose only three. Then he hesitated.

"Lucky, how about you staying back here to run things? You know how to pull for what's needed and have it happen."

In his mind was the thought of Frances. But Lucky rejected the suggestion.

"No dice, fella," he said. "I ain't talked much, but I've seen plenty. If there's any killing of those fellas to be done, I'm going to be in on it!"

There was another distant drum-fire of explosions. They listened, and that was all. It was merely more planes trying to come and bomb them, the only thing they had feared most for weeks. But Lucky fidgeted.

"I want to go out and watch 'em blow up," he said. "We start hiking about daybreak, Steve? Okay! All set!"

The council of war broke up. Bob began the duplication of the devices that had been made that morning. Steve explained to him gravely that it was more important to have many such devices available than to perform any service. It was important, too, to train other men to make them.

And the men were desperately anxious to learn. Clumsy farmers' fingers copied, painstakingly, every incomprehensible detail of the models the boy set up for them. There were four sets complete within three hours. Steve, checking them, rearranged one to an even greater compactness. It still worked.

BY NIGHTFALL the model had been refined still farther, into a rifle-like projector with a blunderbuss-like coil where the barrel should have been. And five men sat up all night to make extra ones for the expedition to carry in the morning.

But before that—much before that—Steve and Frances went out-of-doors alone. There was a moon again. They talked quietly beneath a spreading tree. Insects made romantic noises. Nightbirds called mournfully in the darkness.

"We'll make out," Steve said awkwardly, when Frances had protested vehemently that she wanted to go too. "But it's going to be a tough hike. We could construct some sort of traveling device, but they'd be looking out for that. They'd never think, though, that people who could blast their planes out of the sky would be content to travel on foot. So that's the way we'll go and we're going to travel fast. Meanwhile you're going to stay here."

He kissed her, and her protests were

stifled. Then there was an isolated explosion, far away. Frances started.

"Just another try by a sneak-plane," he told her. "They'll keep that up indefinitely." His expression grew pensive. "Er, I'm going to bring something back. I used the old crater-stone, for sure, and pulled for something. And warmed up. So I know I'll come back with what I want."

There was no reason whatever for secrecy, but he whispered. And she put her arms about his neck.

Then, suddenly, over at the horizon to the south, there was a lurid flare of light as brilliant as the sun and vastly larger. For the fraction of an instant the world was illuminated more brightly than by day. It was another atom bomb. Then came the blessed dark again.

And Bob, aged sixteen, who had come out to ask Steve a professional question about a proposed change in a circuit, blinked in the re-fallen darkness.

"Gosh!" he said.

He went back into the house without disturbing them.

XV

BY EASY stages, it took them only four days to make the two hundred miles, because early on the second day they came to a broad river. They made a raft and floated down it day and night, with only one needing to stay awake on watch.

They used the probe to check their progress, and disembarked on the fourth afternoon. Then they went on.

At nightfall there was absolutely no sign that this part of the world—all weed-grown fields and desolation—was any different from any of the rest. But they knew.

Lucky had become fascinated by the probes. There was a switch which, when thrown, allowed the object sought for to be varied.

Lucky grinned cheerfully.

"This is about where the first line of watch-dinkuses will be," he said.

He'd used the probe on a thought-record which made it seek out devices which would betray their presence to enemy watchers in the center of the foe's dead area. He knew that there were three lines of photo-cells and induction balances which, without alarming anyone who ventured in, made their capture or killing a certainty at the option of the inhabitants.

Lucky swung the probe right and left, and chuckled.

"Pulling for a place we can go through without setting anything off."

They went through. They went on. An hour later they reached the second line. They went through that. The third. Lucky used the probe continually.

"Hold it!" he said presently. "Something funny up ahead."

He was quiet for a long time.

"I don't get it," he murmured to Steve finally. "I've found something to stay away from. Not a trap. Not a warner. Not a big bunch of those folks. Not bombs. You try, Steve."

Steve put the switch of his own probe to brain-control and tried. After a little, he smiled grimly.

"Prison-camp," he said. "A lot of people in it. Our kind. *Hmmm.*"

"There'll be guards, but they'll be watching in, not out," one of the other three said hungrily. "We could kill 'em and—test our stuff."

"Why not?" said Steve. "I guess we owe them quite a bit."

They advanced. They came upon a long line of electric lights—more of civilization than was believed to exist anywhere—and a stockade, with hovels inside it. They saw a guard pacing up and down, a rifle carried negligently over his arm. Lucky squirmed away. The others waited. A long time later Lucky's voice came faintly:

"Hey, fella!"

The guard whirled, grasping his gun with both hands at the ready. Then, in the dim light of the electric bulbs, those in the darkness saw what happened. The barrel of his gun turned white with

frost. Sparks—arcs—played about his fingers. He could not let go. He toppled and moved spasmodically. He rolled over and over. He was still. Then his dead body flexed horribly and relaxed again.

Lucky came back, humming snatches of a little song to himself.

"They'd be right curious what killed him, if they'd have a chance to look," he said amiably. "Electrocution is handy. It's permanent and it's quiet, and any fella with a gun carries his own generator providing he touches his gun in two places and we turn a beam on him."

The men who had been refugees moved forward eagerly.

Presently the five reached the place where the guards' barracks stood. The guards on duty were dead. Killed as their comrade had been killed. By electrocution.

Steve turned his rifle-like instrument on the barracks. Instantly the lines of electric lights flared white-hot and blew out. The dynamo for power was in the barracks. He had multiplied its voltage enormously, so that at the same time, every other bit of metal in the building spat charring electric sparks. Most of the guards seized weapons at the first alarm. They died. The rest snatched up weapons when Steve fired a shot in the air. They died, too.

Steve went through the gate beside the contorted figure of a man in uniform. The rifle which had killed him was still clutched fast in his charred fingers. Steve entered one of the hovels and spoke briefly and urgently to the unseen people within. He came out.

LONG before the five were out of sight in the darkness, a stream of running figures had poured from the prison-camp gate and dispersed in the wilderness outside.

"*Hm*—slave-labor," said Steve, thoughtfully. "That means there'll be more such camps. They must've had some way to produce food. It may turn out handy!"

Before dawn came, the five occupied a neat, small lookout-building atop a hill. Its former occupants were no longer concerned with the affairs of this world, and a telephone instrument buzzed angrily.

"I'll take the call," said Steve.

He picked up the phone.

"Hello!" he said pleasantly. "I want to speak to the officer in command of this base. . . I'm the American in command of the forces which is going to wipe you all out if I don't get what I want. . . I don't speak your language. . . Speak English, please! . . . We have your base under the threat of weapons you can't possibly resist . . . No, I'm not crazy! Listen!"

He nodded to Lucky, who coddled his weapon. It was aimed where its probe-function had told him the heavy bombers were based. A pair of wires in a baking-powder bottle along its "barrel" glowed incandescent. There was a sudden spout of fire four miles away and then a series of racking explosions following each other with incredible rapidity.

"You probably heard that," said Steve into the telephone as the echoes rolled. "You'd better connect me with your commanding officer. I'll hold the wire."

He grinned at Lucky. Lucky was holding his weapon vaguely toward the horizon but above it.

"I got a hunch," said Lucky happily. "I got a hunch there's a plane coming in. Right on the line where they keep their atom bombs."

"They'd be fools to keep them assembled," said Steve. "Take a chance. There'll not be more than one or two in firing condition, anyhow."

Lucky aimed, chanting softly. "Will that plane crash the atom-bomb stores, if I knock it down now—now—now—now?"

The wires glowed.

"*Mmmh!*" he said.

There was a long wait. Then, utterly

without warning, there was a flash of such awful radiancy and such ghastly, overwhelming heat, that the five momentarily were blinded. There was the smell of hot paint in the little lookout-building. There was a sound which was beyond sound. The building rocked on its foundation.

Steve's voice came out of a deathly stillness.

"Really," he said into the telephone in a chiding tone. "We're getting impatient! Will you connect your commanding officer or do you want more atom bombs?"

Chattering, disjointed buzzings came from the telephone instrument.

"You chaps look hungry for something to do," Steve said to the three bearded men of his following. "Set fire to part of the town. Only part of it, though, mind you!"

If wires and nails and even kitchen utensils poured out arcs of electric fire, flames would follow. The three small hand-instruments did not have to furnish the energy for the arcs. That was already present in the metal objects which would emit them. The three men grimly used their weapons.

"Hello!" said Steve into the telephone. "You're in command? Good! I suppose you're a general? . . . Then, General, you will immediately order all your troops under arms, march them to the nearest prison-camps, have them stack arms and deposit all cartridge-belts with their small-arms, and release the prisoners and take their places.

"I am sure the prisoners will arm themselves. They may mount guard over your men. I wouldn't know about that. But certainly if you haven't started the carrying out of those orders in five minutes you'll regret it."

He looked inquiringly at Lucky, who spoke softly.

"The arsenal, where they stock their ammunition."

"And just to urge you on," said Steve gently. "Listen!"

Little wires glowed where four rifle-like instruments pointed along the line Lucky indciated. Heavy detonating tumult began off in the night.

"Your high-explosive bombs will go next," added Steve. "Or we can set the rest of the town ablaze, as part of it is burning now."

Screaming, squealing sounds came out of the telephone.

"Very well," said Steve pleasantly. "All your men in the prison camps, and all the prisoners out, or I'll get quite provoked. I'm going to hang up now, General, and there'll be no more arguments. Obey our orders or we will begin wiping you out."

He hung up. His features were pinched and very tired, but he was smiling. There was a dim red light in the sky to the east.

"It's queer that I don't feel like a murderer," he said softly. "We must have killed a lot of them in the last few minutes. But it doesn't bother me at all. After all, we haven't killed one in a hundred—no, not one in a thousand—of the murders they've done. We really ought to wipe them out. Only we can't do that sort of thing."

"Maybe you can't," said a bearded man grimly. "We can!"

"You'll probably have to kill a few," Steve told him. "But it will pall on you when they can't fight back. That's an odd thing about us Americans. We're about finished here, I suspect. We'll have to tip off the released prisoners what it's all about, and let them organize themselves. I imagine they've been used to cultivate ground as well as for work in factories. They'll put their former bosses at those jobs instead. Then we'll go back home.

"No," he now added reflectively. "We'll have to leave one of our number here to knock off any plane from other bases that may turn up, and we'll have to figure on taking over all the other bases there are. By plane, I guess, in time."

Then he said, with an unconscious gesture of brushing off his fingers:

"Let's go out and look at the sunrise."

IT WAS three days before they started back. Five of them had started, and five men rode back, but one of the five was a stranger. They rode on splendidly-groomed horses from the general's stables, and each of the five had, besides, a led horse trailing behind him with food for the journey and other items that would be welcome.

They made the trip back in five days. And when the horses emerged from the woods near the house and pushed on across weedy fields toward it, yells greeted them. Yells of purest triumph. And Frances ran and ran and ran to meet Steve, so that when he swung her up before him she could only pant and hold him close while she put up her face to be kissed.

"We did it," he told her. "One base was smashed and taken over by the slave-labor they had there. Decent people, the captives were, most of them. The other kind were more useful outside, as guerillas. The released victims are planning an organized sweep to wipe out the other bases all over America, and then they'll start on the rest of the world."

She held fast to him and he could feel the beating of her heart.

"Where's Lucky?" she said suddenly.

"He stayed," Steve told her. "Somebody had to, and he stayed with a gadget to protect the place until we can send back some more stuff. He's rather wonderful with the probe, Frances. He can find anything with it. So just before we left, he told me to tell you he's using it for himself. He's trying to find a girl he can like as much as he likes you. He says the probe says there's one among the released prisoners.

"The probe says so. But he hasn't caught up with her yet. She keeps moving around. He's sticking to the job of finding her, though. And then, too, he wants to go on and help wipe out the other bases."

Frances looked up at him in alarm.

"But you won't go, Steve! You'll stay here, won't you? If it—if it wasn't so crowded, this house would be wonderful to live in."

Steve smiled.

"It won't stay crowded, I suspect. And anyhow I'll remain right here and do some further experimenting. We've started a new kind of science and I want to dig into it. That business of molecular motion, now—" Then he stopped. "I brought back what I told you I would. Found him among the released prisoners. He didn't mind coming for the job on hand."

Frances stared. She peered around Steve's shoulder at the patient-faced man—thin as from long hunger—who had taken Lucky Connor's place on the return journey.

She suddenly flushed crimson.

Steve reined his horse aside and beckoned to the thin man.

"Reverend, here's the lady," he said contentedly. "If it's all right with you, we'll have the wedding sometime this afternoon."

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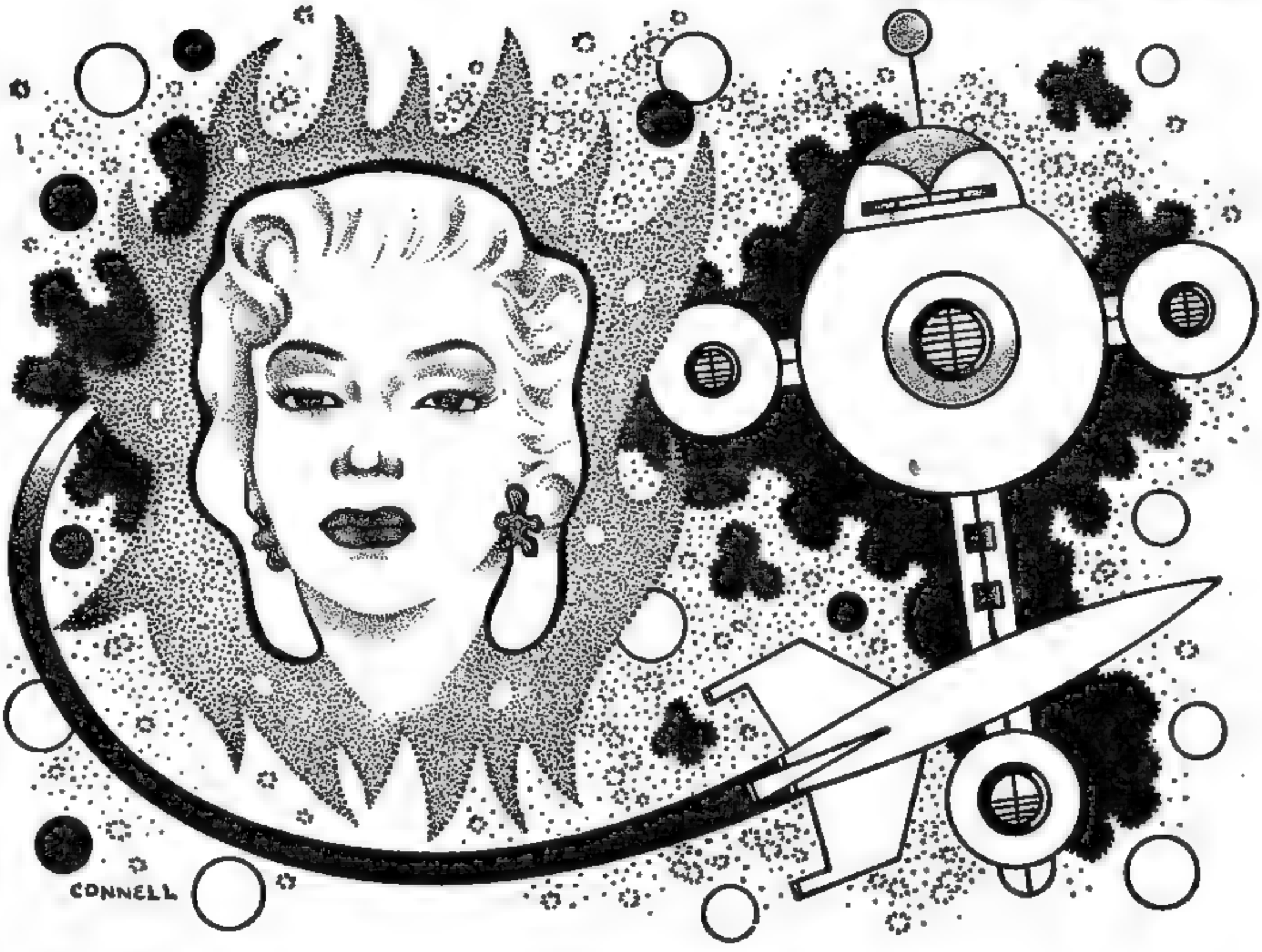

They left behind them the mores of their own world, but they didn't know about the—

LOCAL CUSTOM

By TOM WILSON

WHITE scuds lazed across the green sky of Tchan, and the heat of the growing season was a pleasant blanket upon the land. But sadness was a shadow cloaking the bent figure of Hlan-Glea as he brooded over the mounds where the Terrestrial seed lay rotting and dead. He had been the Guardian of that seed, and his was the blame for its withering.

For the hundredth time he tested the soil, feeling its texture and moistness, tasting its nutrience. He found it good, and knew that the seed should have prospered. . . .

Perhaps it was as Glea-Hlan, his mating companion, had suggested. Perhaps Terrestrial seed required planting in accordance with some custom unknown to him. However, if such were the case, why had not Dr. Benning instructed him in the proper rites? Or why had not

Leatrice and Apollo confided in him during the Testementary Pause?

Gravely Hlan shook his head, and the warm breeze fingered the silk of his hair. Whatever the cause, it was now too late. One full growing season had passed, and now again the small *khula* were lifting their tender heads from the earth. The cycle had come full, but the mounds remained barren. And the failure was his. He had been the Guardian, his had been the responsibility, and betrayal of this trust was a somber weight upon his soul.

He lifted his senses to the gods of the sun and the air, and with simple dignity he spoke.

"With eighty summers have I been blessed, more than any other of my village, so that I have grown in body and spirit beneath your wisdom and have been chosen to lead my people. Those blessings have I ever endeavored to turn toward the right and toward the light as it has been given to me to know them. . . many children have Glea and I fostered . . . . And now I have failed." He closed his eyes for a moment and stood in darkness. Then humbly he added:

"If it be your will, I would know the cause of failure."

Hlan gazed at the lazy sails on the clear green sky and he felt the warmth of the life-giving season upon him; but no strength did he draw from them, and peace came not. I am old, he thought, and my body grows gnarly and brittle; I have failed, and the time draws nigh to consult with Glea and plan our Guardians. . . .

The sky flashed, and a silver fish swam beneath the white sails. Hlan knew that the gods had heard and had sent a sign. Patiently he watched as the silver ship settled on slender stalks of flame beside Dr. Benning's ship. How Dr. Benning and Leatrice and Apollo had longed for this happening, and now they could not witness . . .

Sadly he moved toward the clearing, toward the Terrestrials.

THREE men from the ship accompanied Hlan. He led them through the respectful ranks of his people to the hut of Dr. Benning, deliberately closing his ears to their remarks. It would not be seemly to eavesdrop upon their utterances when they did not realize that he could understand. . . .

The thin man with the long stick remained outside the door of the hut; the stocky older one and the large youngster cautiously entered with Hlan. Once more the Tchani wondered about the strange discrepancy between size and age among these Terrestrials. Dr. Benning had been the oldest, but Apollo had been larger, and Leatrice, a female, almost as large. And now these three—again the eldest seemed the smallest. . . . .

"Look, Captain," the youngster exclaimed excitedly. "A voder. Benning. . . ."

"Wait," Captain replied curtly. "It may be able to understand. . . ."

Hlan's fingers played upon the keyboard, and a mechanical voice intoned, "I am Hlan-Glea, Elder of this village. I bid you welcome."

"Thank you," the stocky man replied gravely. "I am Captain Gill; and this is Lieutenant Manning. We are officers of the Interstellar Patrol."

A commotion arose at the entrance where the third man was stationed. Hlan heard his confused voice mingling with the gentle, rustling protests of his own people.

"Remain without for a moment, brothers," he called swiftly in his own tongue. "All will be well."

Captain Gill was on his feet. "What's the trouble, Cohen?"

"They're trying to bring in some tubs of muck or something, sir," the man at the door replied.

"It is our custom to offer rest and refreshment to our guests," Hlan explained gently. "My people would but offer you from our humble store."

Captain Gill inclined his head. "It's all right, Cohen. Let them in."

A rustling procession of Tchani en-

tered, portering three ceremonial bathtubs and a great basket of fruit.

"Dr. Benning did not care for our baths," Hlan said apologetically. "However, they are customary, and my people would consider the omission of their offering a breach of etiquette—the fruit will be more to your taste."

Lieutenant Manning grimaced at the huge pottery tub which was set before him.

"We are honored," Captain Gill said politely. His eyes moved over the expectantly waiting Tchani. "My apologies for not being familiar with the proper mode of expressing my acceptance and thanks, sir. Perhaps you would be kind enough to assist me?"

"If you will but dip one of your limbs into the bath," Hlan explained delicately.

Gill thrust his hand into the tub, and Manning, still grimacing, did likewise.

Their tubs were promptly removed. Hlan, the amenities over, gratefully stepped into his own bath, folding his limbs and letting the cool refreshment lave his trunk. He was weary, and he found it good. . . .

"As you have no doubt surmised," Gill said, "we have come in answer to the signal of distress being broadcast by Dr. Benning's ship."

Solemnly Hlan rustled his understanding and wordless sympathy.

"Dr Benning and his wife and pilot—they are safe?"

"That they are not is a burden of blame on my humble head," Hlan replied sorrowfully. "They laid their trust upon me, and I have failed them."

"Where are they? What happened?"

"It is best that I recount from the beginning, that you may judge my faults of ignorance. . . ."

"Are they dead?" Gill snapped.

"Even so." Hlan felt old with failure, and the juices of his body were thin.

Gill's face tightened. "Go on, please."

"The growing season lacked yet two moons," the Elder began slowly, "when their ship descended from the sky. They came to our village clearing. . . ."

JASPER BENNING walked forward slowly, staring in fascination at the politely rustling Tchani, drinking in the infant evidences of their civilization.

"God," he exclaimed softly. "A culture like this. . . Who would have dreamed. . . Leatrice, this is even better than the Tamosi ruins. They're primitive, but unique. Absolutely unique. . . ."

"Who cares?" Leatrice Benning retorted. "We're shipwrecked God-knows-where—thanks to this stupid fool—" She glanced scornfully at Peter Apollo. "And he wants to pilot a passenger liner!" She laughed sarcastically. He couldn't pilot a fishing boat."

Apollo's heavy-lidded eyes moved lazily over the lush lines of her figure, and slowly smiled. "The coils should have taken the overload," he said smoothly. "Who would have thought that such a little star would have had enough extension in hyperspace to burn out the drive?"

"Not you, of course. You wouldn't think a star would dare do such a thing to the great Apollo."

Apollo shrugged gracefully.

"Tamosi would have been bad enough," Leatrice said sulkily, "but at least there was a settlement there—a human settlement—but this. . . ." Her gesture swept the Tchani village with contempt.

Apollo's fingers brushed her arm. "It could be worse," he murmured.

Angrily Leatrice jerked from his touch.

Jasper Benning didn't notice. He was busily engaged in trying sign language upon Hlan. . . .

"We helped them build this hut," Hlan continued, "and they left the cramped quarters of their vessel. Dr. Benning found much to do. In the mornings, he would take long walks over the countryside, cataloging items of interest, gathering specimens for examination. In the afternoons, he taught me to use this voder, questioning me at great length about our customs and our history. I understand that he was what is called, among your people, an alien historian?"

"Yes," Gill replied briefly.

"Apollo spent most of his time at the ship, working on its mechanism, adjusting the call of the transmitter which he hoped would summon aid. Leatrice basked in the sun. . . ."

IT WAS late winter on Tchan, but even the winter was warm. Leatrice had taken to wearing a brief blouse—open in front, tails tied at the waist—and shorts. She had found a secluded clearing near the village, and it had become her habit to go there daily to laze in the sun, toasting her fair skin a golden brown.

Not that she enjoyed sunbathing so much, but there was nothing else to do. Nothing else that she *wanted* to do. Jasper had suggested helping with his notes, or giving voder lessons to the Tchani, but that seemed so boring. They might be on this dull planet for years. There would be plenty of time for boring things . . . too much time.

It was much pleasanter to doze in the sun and dream of home. Leatrice missed the tri-di, the plays, the bright talk and the glitter, the dances and the weekends in New York . . . She was only twenty four, three years out of college. She had taken one of Jasper's courses and married him the week of her graduation.

He had been cloaked, then, in the gilt and romance of one who had glamorous, distant places at his fingertips. His casual references to the incredibly ancient ruins of Tamosi, the fairy civilization of Tlaneth, the somber alienness of the forbidding Gree, had been the wine of magic. Lightyears had melted at his making his audience one with the mystery and adventure of far off, alien people. . . .

But how utterly different was the reality of this field expedition. The long months in the ship, the irritating intimacy enforced by the cramped quarters . . . no room for her things . . . every nook and cranny crammed with Jasper's exasperating paraphernalia. The dry as dust preparations, the endless details. . . .

She hadn't realized before that Jasper was so meticulous, so fussy, so—old. At the University, she hadn't had time to notice those things. The students were there, attentive at dances, flattering—occasionally proposing something intimate and impossibly daring.

But here on Tchan there was none of that, so Leatrice lay in the sun and dreamed.

As she reclined in her sheltered clearing this day, a particularly scandalous bit of flattery crossed her mind, and she chuckled aloud.

"Having fun?"

She opened her eyes with a start, blinking in the sunlight. Appollo was grinning down at her.

Slowly she said, "I was remembering—"

Memory still wrapped its gossamer web about her thoughts and she smiled, sensuously moving her arms in the cool grass above her head, forgetting her blouse. . . .

Apollo reminded her. His heavy eyes were close above her, sleepy no longer. His hands and lips were hot and cool upon her, strong and gentle, a distillation of passion and pleasure and titillation.

For a moment Leatrice was still, feeling and fighting the strength of the pressure driving her toward response, marveling at the pleasure and the titillation, wanting it to go on and on and on forever, yet repelled at this casual taking. . . .

Teeth bit her flesh, and she moaned in ecstasy even as she shrank into her defensive mail.

She knew she was lost—or perhaps found—but now now . . . Not until she willed it.

Brutally her knee rose. Apollo rolled away, doubled over, white lips tight against whiter teeth as he grimaced in agony.

Deliberately Leatrice stood before him, taking her time with the blouse, making sure he saw her secret smile before she walked away. . . .

"IN TIME," the mechanical voice of the voder told Gill and Manning, "Leatrice began to help Apollo with the ship. When Dr. Benning had left for his morning walk, she would go to the vessel. Evidently her aid was of great value in repairing the damaged mechanism, because both she and Apollo appeared much happier. Leatrice especially seemed to fill out in body and take on new life, even though the growing season had not yet arrived.

"Dr. Benning, meanwhile, was indefatigable in his classifications, collections, and search for information. I had achieved a passable proficiency in the use of the voder, and he questioned me thirstily about every aspect of our life and our past. I, too," Hlan remarked wistfully, "was curious. However, there was never sufficient time for the doctor to answer my questions, and I did not wish to appear impolite through undue insistance. . . .

"One night, however, he did find occasion to point out a region of the sky where twinkled a few faint stars, and he told me that beyond those stars—so far beyond as to be invisible from here—lay another star called Sol; and he said that he and Leatrice and Apollo came from the third world of that star, a world named Terra. You also, Captain Gill, come from that place, do you not?"

"Yes. We are natives of Terra."

"The powers of the gods are great indeed," Hlan said humbly. He settled himself a little lower in the bath and resumed. "One day Dr. Benning cut short his morning excursion and entered the ship where Leatrice and Apollo labored. Evidently he discovered, in his superior wisdom, that their efforts had been for naught and the ship was indeed beyond repair, for when they emerged sorrow sat upon them all. Dr. Benning was red and stern, the eyes of Leatrice and Apollo sought the ground, and their tongues were strangely still. The doctor strode into the forest, and the others closed themselves within their hut. I sorrowed for them. . .

"That night Dr. Benning visited me and made a strange request. . . ."

THE voice reached into Hlan's nocturnal meditation, shattering its laboriously erected concept, and he knew that the matter must be an urgent one to condone this intrusion upon his privacy.

"I am here," he rustled in answer,

Dr. Benning had acquired an understanding of the Tchani speech, and he drew near in the darkness. Courtesy required that Hlan lift his feet, and, groaning with his years, he did so.

"My apologies for arousing you, Elder." Benning's voice was short with preoccupation.

"The guest of my village can do no wrong," Hlan replied politely.

"I seek counsel and favor, Elder."

"You have but to command—"

"I am marooned on your world, far from my home. I may never see my nursery again."

"So long as you will it," Hlan protested, "my home is your home, my nursery your nursery."

"Your sentiment is kind, Elder, and you have made me most welcome. However, I would make provision for the future."

"He who meditates diligently upon the future shall have flourishing seed," Hlan replied non-committally.

"Your world is agreeable to us. It does not abound in danger. Nevertheless, should my summers end here, it is my wish that my companion, Leatrice, should mate with the man Apollo."

For a moment Hlan was speechless with shock. Among the Tchani it was unthinkable to attempt to dictate the time and circumstances of mating. Of course, since the Terrestrials were the only members of their race here, they would naturally have little choice of selection. . . .

"Doubtless," Hlan said finally, "your customs differ from ours in certain respects. But are not Leatrice and Apollo rather young?"

"Perhaps. However, I believe such would be their wish as well as my own. I am placing a letter for them in the ship's safe. Should I perish, and should they not of their own accord seek to have the mating ceremony performed within the span of half a moon, I request that you direct their attention to this letter."

"Your request shall be my law," Hlan replied solemnly. . . .

"Indeed," the voder intoned, "it was as though Dr. Benning could see the shape of coming events. The very next day, while he was working on the ship with Apollo, a tube exploded and incinerated him."

Gill and Manning exchanged a significant glance.

"His body was burned beyond hope of surviving life," Hlan continued. "Nevertheless we planted his remains with full ceremony in a sterile corner of the nursery reserved for our own unfortunate dead.

"Dr. Benning had come to be almost one of us, and my people and I grieved at his passing. For Leatrice and Apollo, however, the blow was almost unbearable. They retired completely to the ship, redoubling their efforts to repair it, emerging only to gather fruits . . . The days waxed and waned, and the span of half a moon passed. Painful as I found the performance of the task, I felt constrained to call their attention to the doctor's letter. . . ."

APOLLO opened the safe. The envelope was addressed "To My Wife Leatrice" in Jasper Benning's precise script. A frown darkened the pilot's heavy, handsome face as he tapped the letter against his knuckles.

"I don't like it," he said flatly.

"Oh, give it to me," Leatrice snapped impatiently. "He's gone . . . he can't hurt us now."

"I don't know—"

The envelope hissed with the quick rip of her fingers. "You're morbid, Peter. He couldn't have known we planned the accident. And even if he did—" She fell silent as her eyes scanned the page.

She began to laugh, and her laughter was hysterical bubbles of relief rising from the mud of fear.

Apollo shook her. "Stop it," he shouted. "Stop it!"

She clung to him, weak with the release of her laughter. "It's all right, Peter, it's *all right.* And it's funny—so gruesomely funny!"

He pushed her away, searching her face with his eyes. "Come on," he said harshly. "Snap out of it." Lightly he slapped her cheek.

She sobered. "I'm all right, I tell you. Leave me alone and listen to this:

" 'My Dear Leatrice—First, I wish to apologize for the remarks I made upon discovering you and Apollo in the ship. Quite naturally, my first reaction was decidedly colored by blind rage. I think you will be able to understand and appreciate this without further comment on my part.

" 'For some time now I have realized that your initial attraction towards me has diminished. I am no longer capable of holding your love and affection.

" 'We are marooned, and it is my considered opinion that we may never return to civilization. Under these conditions, our little triangle is intolerable to me.

" 'Since I can no longer hold your love, please deliver it into other hands whose grasp may be surer than mine. And do so with my blessings.

" 'I have one final request. It is my wish that you marry Apollo rather than —well, perhaps 'live in sin' is an old fashioned phrase. Be that as it may, I believe you will find your reward more fitting if you are united by the vows of an appropriate ceremony. Hlan's people, I understand, have quite an impressive rite.

" 'There is only one way out for me.

Jasper.' "

Leatrice lowered the page. "He intended to commit suicide so we—it's funny, isn't it, Peter?"

Apollo was staring at his hands. "They

didn't have to be covered with his blood," he said hoarsely. "He would have done it himself!"

"What difference does it make?" Playfully she shook him. "Get with it, boy. It comes out the same place in the long run, doesn't it?"

"I don't know."

She pulled his head down and kissed him. "Well?" she asked expectantly.

His eyes began to come alive.

"You heard what Jasper said in the letter, stupid. Must I propose?" Intimately she teased him, laughing as she did so. "Will you marry me, Peter?"

His eyes were hungry now, and he lifted her in his arms.

Leatrice laughed . . .

THAT very day," Hlan continued, "the mating ceremony was performed. The hut was altered in appropriate fashion for their bower . . . Leatrice and Apollo seemed contented, even happy, in spite of their youth. Doubtless the passing of Dr. Benning had saddened them and influenced their decision."

Hlan paused, sadly regarding Captain Gill.

"Well?" Gill barked. "What happened?"

Hlan shrugged. "They mated."

Gill's face grew red. "But dammit!" He bridled his impatience. "But what happened then, Elder?"

Hlan twitched with embarrassment. Courtesy required that he be helpful, but decency also dictated a limit.

"You wish me to recount the intimate details?" he asked reluctantly.

"I want to know what happened." Gill said stubbornly.

"Your wish is my command," Hlan sighed. "As always, the ritual included the symbolic strewing of *khula* seed, prayers invoking the gods' blessing of fertility, the usual Testementary Pause for conference with the Guardian—an office graciously bestowed upon my humble self, for which I later, alas, proved my utter unworthiness. . . .

"They retired to the hut. As is customary, I stationed myself at the watch-hole—" Hlan paused—"you do not require a description of the mating act?" he inquired anxiously.

"I am familiar with that, thank you," Gill replied with deliberate irony.

"Their seed did not prosper," Hlan said wearily, feeling the weight of his years and his failure. "Perhaps you can inform me wherein I was at fault?"

"They had a baby?" Manning cried. "But they couldn't—there wasn't time!"

"Baby?" Hlan echoed. "I do not understand."

"Child."

"Seed," Hlan corrected firmly. "As I have said, their seed did not prosper."

"What happened after you watched the matting act?" Gill asked grimly.

"After mating, as you know, germination is swift, dissolution painful. When the sleep of death overcame them, I—as a good Guardian should—quickly severed their seed pods and planted them in the nursery mounds I had prepared."

"Seed pods?" Manning shouted. "What!"

The Tchany plantman touched the magnificent cluster, flowing with golden tassels, which crowned his stalk. "Seed pod—head," he said. "It is all the same."

"Benning's bequest," Gill muttered.

"Good God," Manning said in horror, "he cut off their heads and buried them!"

Ruefully Hlan admitted to himself that Glea had been right. "You do not have such a local custom?" he asked sadly.

Among Next Issue's Classics

PROMOTION TO SATELLITE by RAY BRADBURY

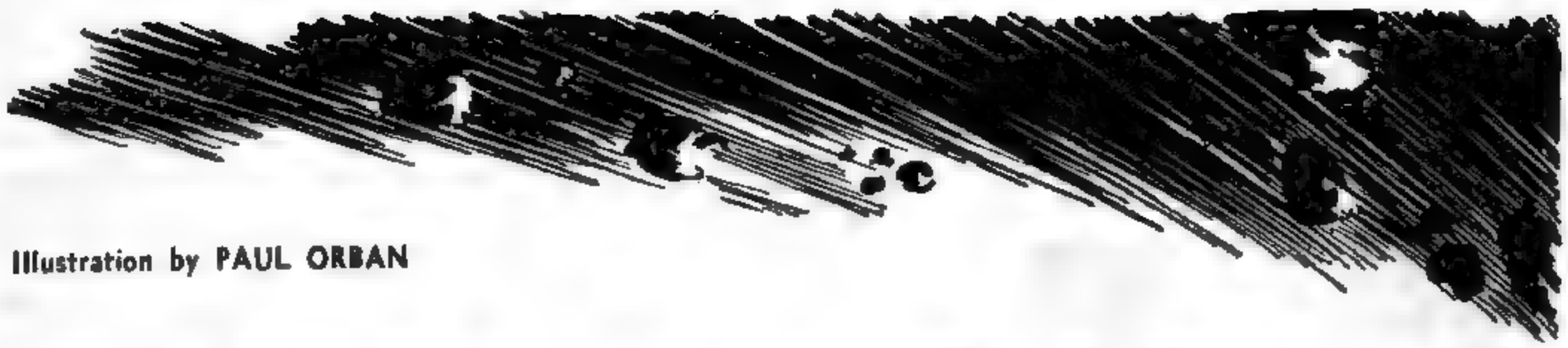

Illustration by PAUL ORBAN

THE CAVERN of the SHINING POOL

By ARTHUR LEO ZAGAT

Wind and gravity were reversed, but they had to find out what had become of the lost crew

I JERKED down the result-lever of my Merton Calculator, and the rattle of its gears was loud in the deserted reaches of Flight Control Headquarters. The flight-graph imprinted itself on the space-chart, the thin red line that would guide the newly launched *Phobos* on her maiden voyage to Venus. I glanced through the transparent quartz wall at her tremendous bulk, vague on the vast tarmac of New York's Spaceship Terminus in the brooding dark of 3 a.m.

The graph line I had just traced jogged erratically, a million and a half miles out, detouring the *Phobos'* course a hundred thousand miles. That hump was why I was here, alone in the crystal hive. At midnight the message had pulsed in on the infra-red ray from the domed air-cell on the Moon where gaunt men ceaselessly scan the skies that trade may ply unhampered between Earth and her sister planets.

In their electelscopes a far-flung shimmer had appeared across the blackness of space and they had leaped to send warning of the one unconquered menace that harried the spaceways. An *ether eddy!*

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Sometimes I thought the old memories drowned, the thirty-year long agony ended, that had wiped out for me forever the thrill of space flight, the joy of leaping from this wrinkled ball of ours and hurtling, godlike, among the stars. Then that word, that damned word that had stripped the winged rocket from my tunic and made of me a half-alive juggler of charts and figures, would strike my ears. The years would fade and I would be in hell again.

As now. I saw Jay again, my brother, [illegible] thick-legged bulk of him, a strand of yellow hair straggling over his brow, his broad-planed face flushed with the excitement of his first command. I felt my hand crushed in his own as I wished him "Happy landing."

The *Luna's* hatch shut him from my sight. The great craft blasted off from Earth. The scene shifted. I bent over an electelscope view field, pride pulsing in my veins as I watched the long, clean arc of his flight. He had learned my teaching well, the bantling. He would push me [illegible] e of

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Then there was that black shimmer across the firmament's spangled black. *The Luna* plunged straight into it—and vanished!

There—where a moment ago she had been, even in her tininess, majestic as a symbol of man's conquest of unimaginable distances, unrealizable cold—there the inscrutable stars stared blankly at me and only a faint trail of rocket gas, glowing and fading in the vacancy, showed that the *Luna* had ever been.

In the madness that took me, I ripped the insignia of my craft from my blouse and swore that never again should I leave Earth's atmosphere. I kept that oath, but my great need drew me back to this place where the spaceships, in ever increasing numbers, leaped for the stars.

Here, while I moldered in the dull routine of my clerk's job, I could watch the swaggering youngsters who wore the winged rocket and pretend to myself that perhaps the next craft to land would bring Jay back to me, Here I had grown old. . . .

THE little hairs prickled on the nape of my neck. The silence about me was eerie, the shadows played tricks on my overwrought nerves. Somehow I felt that I was not alone, and I was afraid.

A furtive sound whispered behind me. A tall figure stood in the dimness near the door, black-cloaked, shapeless. Beneath its black hood was the pale oval of a face out of which eyes glittered, catlike, in some vagrant gleam. The figure was motionless, and all the more menacing because of its immobility. I thought of the lead-capsuled radium in the strongroom beyond my desk, the pellets that multiplied tenfold the power of the oxy-hydrogen mixture in the fuel tanks. Five million solar dollars would not replace them. But what thief would dare the photroncells' spray of death that guarded the treasure?

The instruder moved.

"Who are you?" I rasped. "What do you want?"

A voice came from the shape, a strained, hoarse voice.

"I'm looking for Captain Silton."

My collar was suddenly tight.

"I'm Silton."

"But I mean Gurd Silton, commander of the *Terra*."

Long shivers ran through me. That voice!

"I am Gurd Silton," I said. "And once I commanded the *Terra*." I was no longer afraid. The ague that shook me was not of fear.

"You—you Gurd Silton!" The other's arm came up. Shrouded by the fabric of his cloak it pointed at me like a bat's wing. "You—impossible. You are an old man, and—"

I heaved from my chair.

"Who are you?" I said. "In God's name, who are you?"

I hurled myself across the space between, ripped the cloak away before he could stop me, jerked the hood from his head. And then I saw him—tousled yellow hair, a long strand dipping across his clear brow; frank gray eyes, small now in amazement; broad-planed, youthful face. I saw wide shoulders and thick legs planted in an old, familiar stance. Sound ripped from my throat. "*Jay!*"

He warded me off.

"I'm Jay Silton, all right. But you're an old man. You *can't* be Gurd!"

Rage thickened my utterance.

"What did you expect? Thirty years don't leave a man's hair black."

And then it hit me! Jay wasn't changed at all. He was still, apparently, a youth of twenty!

He was staring at me with wide, incredulous eyes.

"Thirty years," he whispered. "Why, it's only a month since—"

I saw the space-chart, saw the date imprinted at its upper edge. November 16, 2068! I pointed to it.

"Look!" I said huskily.

My brother stared at the paper. A vein pulsed in his neck. He drew the back of a closed fist across his fore-

head and words dripped from his working mouth.

"But I swear it's not a month since we—lost our way. Why, there's still food left on the *Luna* and we had only a month's supply."

His hand came out in a gesture of utter bewilderment.

"Gurd! Where have the years gone?"

A long shudder ran through him. "Sanders is lost," he muttered, "and Hollivant. And there are thirty years gone from my life."

MADNESS flamed in his eyes. I must ease him somehow, say anything to divert his thoughts.

"By the way, Jay, I didn't see the *Luna* land. Where is she?"

"Hidden in the Adirondack Pleasure Park, in a glen where nobody goes. I didn't dare land her here."

I was startled.

"Why? Of what are you afraid?" I recalled his furtive entrance, his cloak and hood.

"Afraid? I told you my mates are gone. Have you forgotten Rule Forty-nine?"

Of course. Rule Forty-nine is the most rigorously enforced of all the Space Code, and provides that in case of disaster to a vessel, her commander must be the last to seek safety. If he returns minus crew or passengers the penalty is—death in the lethal chamber!

Severe this may be, but justified. Too often, in the early days, did space madness seize crew and master alike. Too often did craft land with one, only, alive of those who had blasted off. It was the one solution, to place all weapons in control of the master, and hold him strictly accountable for the safety of all aboard.

"Jay!" my voice broke. "You didn't—"

"No." There was utter truth in the gray eyes. "Of course not."

"But where are they? Are they alive?"

"That's the hell of it, Gurd. I don't know whether they are dead or alive. I don't know where they are."

If I was to help him I must get him talking sense.

"Come now, Jay," I said sternly. "You must have some idea of where in the universe you have been."

I could see that he was trying to pull himself together, trying to phrase an elusive thought. His hands fisted at his sides. Then, "Gurd! It sounds insane. But—but I don't think it was anywhere in the universe."

"You—"

Toneless words from across nine hundred thousand miles of space interrupted me. "Newyork, Newyork, Newyork," the speaker disc above my desk blared. "From Lunar Observatory. Ether eddy is fading. Ether eddy is fading. Corrections need not be made. From Lunar Observatory. Newyork, Newyork, Newyork. . . ."

"That's where they are! In that eddy or beyond it! That's where I came from. It's going, and my last chance is gone! My last chance to find them, to save them!"

I grabbed Jay's arm.

"Come on, quick!" Without his mates or a witness to his nonculpability for their loss, death was certain for him. "We still have time!" What happened to me did not matter. "Hurry!"

We were out of the room, were darting across the tarmac. The *Phobos* loomed its dark bulk over us, and, praise be, its entrance hatch was open. I plunged through, Jay after me.

"Close down," I shouted. "Close down!" The first command of a space flight. How long since I had uttered it!

I HURTLED up the companionway, followed by the clangor of the shutting air-lock hatch. Thirty years since I had flown, yet all the old, hard-won spacemanship tingled at my finger-tips as I burst into the control room and saw before me a gleaming bank of levers and fuel wheels.

Jay's staccato report met me, from the speaker disc above the gauge-board.

"All tight, sir." Just as in the years when I taught him the secrets of the void.

"Make it so, mister," I acknowleged in the unforgotten jargon. "Stand by for blast-off." Not for nothing had I conned the plans of this latest product of the spaceship engineers, assuaging nostalgia in vicarious flight. There was no lost motion now as I dived for the protective couch, snapped straps around me, and jammed down the main-feed lever. I functioned almost automatically, thrown back a third of a century to the old routine.

The surge of sudden vast power, the down-thudding of acceleration's weight, was a trip-hammer blow to my unaccustomed flesh. For an instant I knew the agonies of the damned, then merciful oblivion took me.

I do not know how long I was unconscious, nor what awesome speed the *Phobos* attained before the Thorson electro-spring cut off fuel flow. But when sight and thought returned I saw, in the visi-screen, the blackness of space, the widespread panoply of stars infinite in distance and number that I had thought never to set my eyes upon again, and the ominous shimmer of the ether eddy, straight ahead.

Terror jerked my unwilled hand to the braking valve, but it was too late. The *Phobos* plunged straight into the heart of the mystery from whence my brother had come.

In that instant livid fingers reached, twisting, into my brain!

The *Phobos* jarred. That jar seemed repeated in every atom of my being. Light poured in, a vivid, red light that paled the gleam of our argons, a crimson light that smote all color from the cabin. I whirled to the visiscreen.

And then I was at the lever-bank, furiously, frantically active. I had seen a great orb blotting out the sky, a gigantic, scarlet sphere toward which we hurtled headlong.

The Phobos vibrated, screeched protest at the forces that tore at her. Great, whirling, scarlet clouds became distinct, blanketing the strange world that had us in its grip. A craggy spire thrust above the vapor, spearing to impale our vessel.

The nose-tubes were on full force and they couldn't brake her! In minutes, in seconds, we should crash against the red world into infinitesimal fragments. It wasn't thought, it was sheer instinct unforgotten after thirty years that guided my flashing hands among the wheels and levers. There was no time for thought.

I swung her! I swung the *Phobos* half about as she hurtled to her doom, and with the maximum blast of her main tubes I detoned her into a sideward path, parallel to the rounding surface of the strange planet.

That held her in a circling orbit, made her a satellite of the cloud-shrouded crimson world!

I slumped, breathless, and stared at the five-fold visiscreen. In one direction I saw the mist-clothed, ruby bulk of the world whose attraction had nearly done for us. To the side, and far off, an immense sun sent scarlet streamers writhing out from a scarlet, dazzling disc. In the other sectors the firmament was revealed; a black firmament, star-studded. In all that vast panoply of worlds and suns there was not one familiar constellation! They were strange, all strange.

A VOICE, a blessed human voice, broke the stillness.

"Gurd! Are you all right?" Jay leaned against the hatch, his face ghastly in the weird red light.

"A little dazed, but whole. And you?"

His lips tried to twist into a smile.

"Me? Oh, I've been through this before."

"Then this is what we are looking for. This is where you lost Hollivant and Sanders."

He nodded. "If they're still alive, they're down there. We broke through, like this. Just as you just did, I swung

the *Luna* about and forced her into a circling orbit.

"I did more. I turned my ship again, so that her stern was toward that world and tried to blast her away. But I couldn't, Gurd. The attraction was too great. We were held tight."

"But the *Luna* was powered to escape from Jupiter," I exclaimed, "against five times Earth's gravity!"

"It wasn't enough. We were chained here, doomed. I didn't dare land, not being equipped for interplanetary exploration. We circled endlessly, seeing nothing below but those rolling mists.

"Eventually Hollivant and Sanders demanded permission to take spacesuits and make the attempt. I couldn't refuse. I opened the airlock for them, watched their bulky shapes spiral down, black against the red-lighted clouds, the long-darting flames of their gas-tubes streaming ahead of them to brake their descent. I saw them land on that peak we glimpsed, the only evidence that the strange planet is solid. And then—"

"What?"

"And then the *Luna* jarred. The crimson light was gone, and in the visi-screen I saw Orion with his sword, I saw white Rigel and topaz Betelgeuse blazing in splendor. The white blaze of our own Sun warmed me, and little Earth was a green disc calling me home."

"You went through the ether eddy again!"

"I guessed that. But, Gurd—what does it all mean? What is this strange universe, and what became of the thirty years that seem to me less than a month?"

Somehow I knew the answer, must have reasoned it out subconsciously as he spoke. "Science has moved while you were gone, Jay. We know now that the ether eddy is the manifestation of a fourth dimensional tangency between two spatial hyperspheres. You remember your high school Einstein?"*

"Of course. I get it. Einstein said space, *our* space, is unbounded but finite, the three-dimensional surface of a hypersphere within which, and without, nothing exists that is in any way related to anything in our space. What's happened is that we've—"

"Broken through into *another* space. Another universe. And since, as you said, nothing in this space has any relation to anything in ours, their time continuum is different, so that it is perfectly reasonable that while you, here, were living only a month I, there, aged thirty years."

"Yes, but—" He didn't finish his sentence. At least I didn't hear him finish it. For I had kept my eyes on the electelscope viewplate as we talked, and just then, the *Phobos* having completed a circuit of the red planet, the black peak came into its field. And I had caught a flicker of movement on its surface.

IT WAS an Earthman, his spacesuit unmistakable! He seemed to be struggling with something. A billow of cloud spurted upward and he was lost to view.

"They're alive," I blurted. "One of them is alive. We've got to go down there."

I managed it. With a gentle side discharge of the rocket flares, I changed our level circling to a slow, tightening spiral. Each circuit we made through the shifting changes from black night to crimson day brought us nearer and nearer the clouds, and then after an interminable time, we were among them.

We were through them! We were over a great, almost level plain, black as the belly of Jonah's whale. We landed, gently as thistledown, right at the base of the needlelike spire that pierced the clouds.

"How's that for navigating?" I grinned. "The old boy hasn't lost his skill."

"Swell," Jay applauded. "But what's to do now? We can't climb that mountain. It must be fifty miles high.

* The figure in four-dimensional geometry that is analogous to a sphere in three-dimensional, i.e., the figure described by a sphere rotated through the fourth dimension, as a circle is rotated through the third dimension to describe a sphere.

"Into spacesuits," I snapped. "And the *Phobos* carries a small stratocar as a lifeboat. If there's any atmosphere at all, and there must be or there wouldn't be any clouds, that will take us up there quicker than we came down."

"Let's got going then. The fellows need our help, bad."

"We'll get going, but I'm afraid we're too late. Time's all mixed up, Jay, by our circling, but I figure a week at least has passed here since we saw him, although only minutes in the time of this universe elapsed while you came back to Earth and we returned."

"Never mind that. We've got to make a try."

"Okay, I'm with you," I responded. "Don't forget these trinite guns. I've got a hunch we're going to need them badly."

The buzzing hum of the stratocar's hydroxy motor battered against the side of that incredible mountain as we lifted straight up to its summit. Suddenly, just under the cloud ceiling I saw a hole in the rampart, underlined by a narrow ledge. And on that ledge—the broken off hand-claw of a space suit.

"In there! They're in there," I shouted. It was with an effort that I controlled my shaking hand sufficiently to land our little conveyance on the ledge. Bulky in our spacesuits, we squeezed out, stood precariously on the rock shelf.

The cave that confronted us seemed shallow, a blank wall closed it only six feet back. But a tunnel angled off to the left, so sharply that light, reflected not at all by the dull surface of black rock, did not enter it. My tentative, testing step felt a level floor in that Stygian darkness, and in the sensitive ear of my spacesuit I heard the scrape of Jay's feet following me.

The jointed metal of my garment made sudden, echoing clangor as I thumped into vertical stone. I froze. Surely that clumsy sound would arouse the mysterious denizens of this cave, would bring them in sudden attack upon us! My hand-fork closed about my weapon's butt.

The stillness was ripped by a long wailing cry, packed with terror; a thin, hopeless, human wail that rose and fell, rose and fell, somewhere ahead! It snapped short. The following, intensified silence was vibrant with horror.

I jumped forward. The ground dropped away from beneath me, and I was falling, falling. . . .

THERE was sound now, sound aplenty. The crash of my own sheathed body, jerking from side to side. The crash of Jay dropping too, above me. Rattle of loosened stones, following us down. I dropped, dropped endlessly.

The sensation of falling ceased, but not the noises. I seemed to be floating free in the eyeless dark. My flung-out hand touched the side wall, was thrust away with terrific force. I knew then that I was still falling, but not at an increasing rate, as I should have if gravity alone were acting. Some intangible force was holding the speed of my descent steady, so that, with nothing by which to judge, I seemed to be at rest.

Precisely as if I were in a spaceship, zipping along at a thousand miles a minute, with nil acceleration. But this was in the bowels of a world, not in the free leagues of space. Sooner or later we'd hit something solid.

The blackness grayed slightly. I felt myself moving upward, slowly. But so sudden a change of direction, at the speed I must have attained, should have torn me to bits. It dawned on me that my fall was merely slowing gradually. Queer! What could be causing this gentle deceleration?

In a sort of drab dusk I could now see the glass-smooth, curved walls blurring past. I twisted and saw Jay's queerly distorted form below—no, above me. It must be above. I had fallen first, and he had not passed me. Sensation was chaotic. As a space pilot I should have been familiar with apparent changes of direction, deceptively due to misinter-

pretation of changes in acceleration, in rate of motion, by the monitors in our nervous system. But it was so long since I had flown.

The light grew brighter. It was white light. White light! Brighter and brighter it was, dazzling after the dark. Abruptly the walls of the shaft were gone! green fields. We were falling straight for that white blaze!

A hurtling form shot sideward, from above me, blue gas spitting. "Gurd. Your gas-tube! Your gas-tube, Gurd!"

Jay's howl shocked me back to thought, to action. I had clean forgotten that this was a self-propelled spacesuit.

We had dropped through the roof of a tremendous cavern, its boundaries miles away! Below, straight below us, five hundred feet or more, a circular pool of what seemed white-hot, shining metal blazed. I glimpsed forms moving about its edges, a road bordering it, low-lying buildings. Beyond them fields,

My hand-fork flashed to the control button. The death pool jerked away from under me. I thudded hard to the cavern floor, beside the prone figure of my brother. My head rang with the impact, my body felt a mass of bruises, but I was alive!

Jay's helmet was split across the fore-

head! Was he dead from the fall, or poisoned by unbreathable gases admitted through that ominous tear in his head cover? I rolled to him, peered in through his face-plate.

His eyelids flickered, opened. Color flowed back into his cheeks, and he smiled, wryly.

"I'm all right, Gurd. Just got a rotten crack on the head."

I was weak with relief.

I thought you were gone."

"Not yet. I was born to be gassed out." He sniffed. "I smell flowers. What did you do, lay a wreath on me? A little previous, wasn't it?"

"Your helmet's cracked open."

"Good Lord, but this air is salubrious. Open up and get a whiff of it."

I GOT to my knees, rigid with dismay. Across the level, grassy meadow from the shining pool a horde of creatures were rushing toward us, things out of some fantastic dream, gigantic in size, of vivid, kaleidoscopic coloring.

As they came closer I saw that they were dome-shaped, more like turtles than any other Earth creature. But there was no shell, no tail, and their six unjointed legs were squarely beneath the ungainly bodies. From the topmost point of the hemispherical torsos, a full eight feet from the ground, sprang a series of long tentacles, thin and writhing snakily. In front, fragile-seeming necks jutted, ending in comparatively tiny, globular heads, each featureless save for one unwinking green eye and two drooping, flapped ears.

Before I could move the turtle men closed around us in a jostling, nightmare circle, leaving an open space about twenty feet in diameter. They squashed into one another, seeming to merge in a solid wall of obscene protoplasm, so that we were the center of a serried circle of ball heads thrust out from a high barrier. From that incredible ring came a high, squeaking chorus of whimpering sound, oddly infantile.

I remained kneeling, gaping at that circled horror, could not have moved had I so willed.

The whimpering squeals grew in volume, then ceased altogether. The ring parted, the crowding hosts behind gave way till there was an open lane, stretching back to whence they had come. From the direction of the pool, down that long passage, moving with vast dignity, a little procession came slowly toward us.

In front was a turtle man, similar to those we had already seen, save that his body was a steady blue and that in one of his tentacles there was a bundle of what seemed like long grass which he held aloft and waved slowly from side to side. Behind him, on some sort of discoid platform whose bearers were screened from us by the leader's bulk lumped another of the creatures.

This one glowed purple, and even from a distance I could see that his legs and tentacles were rudimentary, while the sphere of his head was triple the size of the others.

As they came on a wave accompanied them in the forest of uplifted tentacles. They came down in evident obeisance, then lifted again to resume their eternal weaving.

I rose and tried to assume what dignity of posture I could muster. The blue turtle man came within the cleared circle of grass land and moved to one side, turning as he did so. And I saw who it was that bore the palanquin of his master.

Their once smart uniforms hanging in torn strips, their faces smeared with dried blood and twisted in agony, their eyes great pits of suffering, the two Earthmen were bent almost double beneath the weight on their shoulders. Hal Sanders' face was seared by two livid welts from ear to chin, and on Ralph Hollivant's chest, where his tunic had been ripped away, another glowed angrily. I felt the hot blood of rage surge into my face. My fists balled within their gloved hand-forks.

The blue-hued major domo flicked out

a tentacle that touched the platform, and then the ground, in an obvious signal. The Earthmen knelt, their necks cording with the effort, and struggled to put the palanquin down evenly.

One side slipped from Sanders' shoulder, thumping against the ground. The prime minister lashed a tenacle across the poor fellow's cheek! Hal's shoulders jerked and I held my breath, thinking he would spring at his tormentor. But, pitifully, his head drooped and all he did was to rub the new mark of punishment with a trembling, grimy hand.

I remembered Hal Sanders as a two-fisted, brawling chap, impatient of discipline. To see him meekly accept the lash told more eloquently than many words what he had gone through, what lay in store for us.

THE enslaved men heaved painfully upright. They looked at us with lackluster eyes, not the least ripple in their dull faces showing recognition of us, or wonder at our appearance.

"Hal! Ralph!" Jay cried. "What have these devils done to you?"

Hollivant looked at his blue master, appeared to beg voicelessly for permission to speak.

One of the turtle man's snakelike arms reached out to me, swept shudderingly over my metal suit, then to Ralph's puffed lips.

Hollivant's voice was almost unrecognizable as human speech. "He wants you to get out of the space suits."

"Like hell we will," Jay blurted. "Let him try to take them off."

"You had better. We tried to defy them, and look at us."

Jay's gesture of negation was evidently understood by the weird creature. His tentacle touched Hollivant's lips again, then waved in an all-embracing movement.

"Evidently they don't want another scrap. We did some damage before they got us down. I'm to explain the futility of defying them."

"Never mind that," I broke in. "Tell us about this place. With the benefit of what you have learned we may have a chance to get you away."

"Impossible. If you have any weapons the best thing you can do is kill yourselves and us." They were licked, there was no question of that.

"Chin up, Ralph. Arch your back. That way out is always available. Meantime we'll try to make a fight of it. What happened to you?"

"We got down safely enough, landing somewhere on the slope of the mountain through the center of which the entrance to this hell shoots up. Hal took a chance on opening his faceplate, and when we discovered that the air was breathable we decided to signal to Captain Silton. We climbed the peak, keeping on our spacesuits.

"Just as we reached the underside of the clouds, what I thought was a snake whipped around me and coiled tight. I fought for a long time, there in the red fog, against writhing, snakelike things I could not see. The huge, soft, jellylike bulks gave no resistance as I slashed, and slashed, and slashed in a delirium of struggle. One of my hand-forks struck against rock and broke off, the other was bent and useless. I grew weary and could fight no longer. The living ropes clamped tight around me, bound my arms, my legs.

"I was dragged into pitch darkness, and then I was drifting down, slowly down and down till I though there was no end to descent."

"Slowly? Our acceleration was tremendous at first."

The blue turtle man squealed protest at my interjection, and waved a threatening tentacle. Hollivant winced.

"He's getting impatient. I'll have to cut it short."

"Get the salient facts over. I want to know especially how they get up and down that shaft. I've got a hunch that the solution to our problem lies there."

"Okay. Here's the layout. The outside of this planet is uninhabitable because there are no life-giving rays in

the light from its sun. But the pool in this cavern is a basin of highly radioactive liquid that gives off light with all the necessary vibrations at the violet end of the spectrum. As a result, animal and vegetable life has prospered here, their evolution culminating in these highly civilized creatures. Not only does the liquid give off light, but it is also tremendously repellent. Since it is sunk so deeply it acts only upward, more than cancelling the planet's natural gravity."

"How do they manage to control that repulsion?"

"They have a compound, a transparent, glasslike sort of stuff, that screens the pool effect. From the nearest building to the pond they swing out leaves of this material, or retract them, so as to moderate the repulsion; allowing it to act full force, or shutting it off entirely. Ordinary gravity acts through this glass, so the effect of covering the pool with it is to permit whatever is in the shaft to fall, instead of rise as it would if the pool were uncovered."

"I get it! By regulating the laminations they control the speed of ascent or descent. That is why we fell so fast at first, then had our speed gradually checked." Many things were clear to me now, and already a desperate plan was forming in back of my head.

"They go up there to obtain a certain ore needed in some of their scientific processes. One of their parties discovered and captured Hal and myself. Others must have observed your approach."

"We heard a scream of pain—"

"That was when I got this." He pointed to the scar on his chest. "The hole is a great speaking tube, carries sound perfectly. I heard what sounded like a space suit striking against rock, and tried to call a warning. But I was caught at it." Memory of pain was a dull flame in the lacklustre eyes.

"You say they are civilized. The way they have acted to you, doesn't sound like it."

"They've outgrown all emotion, except one, loyalty and veneration for their king. He is the be-all and end-all of their economy. At a word from him the whole nation would kill itself."

I had heard enough. "Listen, everybody," I said in a quiet tone, and set out my scheme rapidly and succinctly, gesturing meanwhile so as to indicate to the watching turtle man that although we refused to remove our suits we should go with them peacably.

At a gesture of command, Hal and Ralph bent to take up their burden again, and Jay and I stepped forward to aid them.

THE turtle king on his platform was unexpectedly light, despite his great size, and the four of us bore him easily, as we followed his adjutant down the long passage that reopened through the compact mass of his fellows. I chuckled grimly when I saw that the path led straight to the edge of the pool.

"The palace," Hollivant whispered, "is on the other side. We will pass the structure from which the screens are swung and then swing around the pond."

Everything depended now on whether those screens were over the pool or not. We slowly neared it, and the brilliant light grew almost unbearable. It blazed through the major domo's body and made of it a huge sapphire jewel. It struck pearly iridescence from the walled bodies lining our course. There was an obscene beauty in the play of color, but my attention was focussed on the great vault of the cavern roof, and directly over the deep-sunk shining pool, the black hole that betokened the lower end of the shaft.

The procession leader reached the edge of the lake of light, turned ponderously half left to skirt it. His bulk no longer eclipsed my view. I saw the answer to the question that pounded at my brain. Folded up against the wall of a building at our right I saw the transparent screens, towering above the low structure's roof. The pool was unobscured, was free to pour the full

strength of its repulsion up through the long vertical tunnel where lay our only way to release.

The blue turtle man was some ten feet ahead of us, the following hosts a respectful twenty paces behind. It was now or never.

"Ready," I called, quietly, and shifted one arm so that it curled up over the palanquin edge, and gripped the upper surface. The burden jolted, the least bit, and I knew the others had done the same.

"Go!" my voice snapped, and I jumped straight for the center of the pool, still clinging to the turtle king's support. It came with me, as Jay and Ralph and Hal responded to my command. Straight out over that blazing pool we leaped and suddenly we were falling!

Falling! But the pool was above us, and the cavern roof beneath! The repulsion of that pond, taking the place of gravity, had reversed directions for us, and while to the astounded turtle men we were shooting upward to our own senses we were dropping as rapidly.

Straight for the black aperture we went, and a squeal of rage came from the palanquin. I looked up at a vast thicket of agitated tentacles and saw a blue mound whirl and scuttle toward the building against which the screens were folded. The prime minister, rushing to cut off the pool's power and bring us back to vengeance.

I jerked out my trinite gun, aimed carefully upward, past my feet, at the huge plates that hung down from the ground. I winged the trinite pellet with a prayer.

It struck, by the Pleiades! It struck squarely on the slowly unhinging screens, and they shattered into a million fragments!

EVEN above the shattering crash of that destruction I heard a vast high-pitched wail from the tossing multitudes above, and saw them rush headlong into the pool, saw them hurtle downward after us. Then we were in the obscurity of the shaft—falling, falling, falling toward the surface of the red planet.

"They'll blow up the shaft with their bombs," Sanders cried out. "That'll cut off the pool power, and we'll be trapped here in mid-earth."

"They won't do that as long as we have their king with us. I thought they might use some such means of stopping us. That's why I brought him along."

"Gurd!" Jay's voice. "We're accelerating rapidly. We'll crash at the top. Now that you've destroyed the screens there's nothing to stop us except the roof of the entrance cave."

"We'll slow up with our gas tubes."

"Yeah? And give the turtle men a chance to catch up with us?"

"I didn't think of that! Well, it'll be a clean death, anyway." I was licked.

But not Jay. "Try shooting at it," he yelled. "Maybe we can blow off the top of the peak."

"Good boy! Shoot!" We emptied our guns past the discoid resting place of the turtle king. Then we waited with bated breath, as we continued the headlong rise that, to us, seemed a fall. We knew the pellets we had loosed were speeding ahead of us, that they would surely strike the overhanging rock that threatened us. We knew the tremendous atomic power compact in each of the eighth-inch globules. Would it be sufficient to blast away the black peak?

Thunder rolled back upon us, deafening. We were thrown violently from side to side of the shaft as the disturbed air soughed past us, and I heard a squeal of pain from the turtle king. I tried to see past the platform edge, for some gleam of light that would tell me our attempt was successful. But the darkness was complete.

"No go, fellows. We're in for it."

"Good-by, Gurd; it was a grand fight while it lasted."

I reached out, groping, and my hand-fork met Jay's, gripped it hard.

Suddenly I was flung against the underside of the palanquin! I heard a squashing thud, a high-pitched scream,

gurgling horribly into silence. I was one of a writhing mass of human arms, legs, bodies, and was joining my voice to a chorus of shouted, husky curses and objurgations. Something was around my neck, holding my head as in a vise. A heel beat a tattoo on the metal of my spacesuit.

"Hey, let up! Get your toe out of my eye!" That was Jay. I shook my head to clear it of the dizzy whirl that scrambled my brains, realizing that we were no longer falling, that we were piled atop the bottom of the platform that had preceded us in all that long descent, that we were miraculously alive!

"What—what's happened?" someone gasped.

"That's easy!" I had figured it out. "The back-flash of the explosion of our trinite pellets against the roof slowed us up a darn sight more than we realized. And the eight-foot mass of jelly the other side of this sedan-chair did the rest. That turtle king made a swell bumper."

"Whew! Let's get out of here. That mob will be on us in a second."

"Gad! I'd forgotten them. How is it they haven't caught us already?"

"The explosion slowed them up also. But they'll be here, too quick for comfort."

I PUSHED to the side of the platform, reached around, and got a grip on the under surface. I pushed out under the rocky floor of the tunnel. Instantly directions were reversed. I hung now, from the disc that had just been under me. What was down was now up, up, now down. I knew then that miles of solid ground was between me and the repulsion of the pool, that I was definitely out of the shaft. I let go, dropped, sprawled on solid, grateful rock.

Jay landed beside me.

"Next time I come here," he grunted, "I'm going to paste a label on me, 'This side up, with care.' Am I on my head or my tail now?"

"Hustle," I yelled, and took it on the run. The others were close behind.

Our stratocar still perched, birdlike on the ledge. We piled inside. The motor took hold sweetly, and the stratocar zipped out of reach.

The *Phobos*' power was triple that of the *Luna*. She lifted easily through the crimson clouds.

"Where now?" Hal Sanders queried. "How are we going to get back?"

"The same way Jay did, through the ether eddy."

"I suppose you've got a chart of the route." Jay scoffed. "Just issued by the Interuniverse Flying Board."

"I have."

"Quit your spoofing."

"I'm not. The blind luck that attends children and drunks brought the eddy in your path, when you were here before. I, being somewhat more intelligent, know enough to look for it."

"I suppose it's all set for you?"

"Exactly," I responded drily. "There it is, straight ahead. Look."

And so it was, shimmering discreetly, a vague intangible veil across the black curtain of this other-space. But now it breathed promise instead of fear. The *Phobos* plunged straight for its heart.

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Illustration by
PAUL ORBAN

CARGO TO MARS

By WALTER H. MULSTAY

Only the waiting colonists

on Mars knew why the

courageous space captain

didn't abandon his ship

GOOD evening System viewers! This is your trideo reporter, Danny Patter, again bringing you the latest news of the entire System. And tonight, from the tiny base on Eros comes the fragmentary story of disaster in space. Survivors tell the tale of a cargo ship, the *Reliance*, and its captain, Terence Hector. In the short time since the story

broke your reporter has fitted the pieces together and the result is another Danny Patter space scoop. We'll keep you posted as the facts come in.

"As far as we now know, an ancient cargo ship, the *Reliance*, ran into an uncharted swarm of meteorites on its return trip from Earth to Mars. All drive rockets were smashed beyond repair and the ship was punctured in over a hundred places. No section escaped severe damage except the reinforced hold where cargo was stored. Amazingly enough, no casualties were suffered in the initial collision. All hands climbed into space gear and at Captain Hector's command manned the lifeboats. At this time nine of the thirteen boats have made a safe landing at Eros base, and it is expected that the remaining four will arrive there shortly without incident.

"However, although all concerned are relieved at the escape operation's success, the remarkable fact stands out that Captain Hector himself has not left the ship. Despite the almost complete destruction of the *Reliance*—experts claim the ship itself would not be worth salvage—Captain Terence Hector has elected to stay at the controls of his ship, a throwback to the ancient but time-honored tradition of Earth's own water-going skippers.

"With high respect for the courage of Captain Hector, your System reporter cannot shake the feeling that there is something deeper than meets the eye in this action. In this advanced age a captain does not go down with his ship. We have discovered that Captain Hector has not completely abandoned chance of escape. One lifeboat was left behind for him when and if he decides to leave the *Reliance*. Taking this into consideration, and recognizing the *Reliance* for the derelict it is, it would seem that the cargo must be of extremely high value to cause such a risk of life on Captain Hector's part. As of now your reporter does not know what that cargo is, but he will endeavor to discover its nature before the next broadcast.

"Now, ladies and gentlemen, watch your screens as we take you to Eros where 'Operation Search' is underway for the four missing lifeboats. You will see on your screen. . . .

THE *Reliance* hung pitted and dead, a black blemish on the cold brilliance of space. The shattered hulk swung on a long, slow orbit around the bloodshot orb of Mars half a million miles away. In time, unless the ship were salvaged, the orbit would change—a fraction of a degree at a time—until the *Reliance* either swung with increasing acceleration towards the Sun or plummeted into the corroded red dirt of the ancient planet itself.

Captain Hector, bleary-eyed with weariness after a thirty-six hour battle to seal the control room airtight, rested a moment before tackling the intricate and painstaking task of rewiring the micro-wave transmitter, ripped and torn by a cloud of pea-sized particles that had swept the *Reliance's* bow.

The lines of his face were deep with tiredness, and in the dim light of the emergency torch he looked much older than his fifty years. It was a young man's game, hauling cargo in space. Even with new ships and protective screens it was still for the sturdy elasticity of youthful bodies and Captain Hector knew it.

Long ago the *Reliance's* high-carbon steel girders should have been melted down to form the firm foundation of a newer craft; and the slowing, middle-aged body of Captain Hector should have been relaxed on the shore of some tiny paradise of an Earthlake, where the yellow sun warmed by day and the stars twinkled by night.

But the asteroids furnished ore for steel in abundance and there was no need for scrap; and Captain Hector had transplanted to Mars when the first pioneers snapped the bond of Earth and swarmed like tiny motes throughout the System, seeking treasure, adventure and romance. There were those who could

not return to Earth, for the atmosphere of the mother planet, thick and absorbing, robbed them of the intimacy of space which drugged with its cold beauty. Captain Hector was one of them.

Now there was no time to reminisce, had he wanted to, of what should have been. There was no rancor in his mind over decisions of the past. The plastic blister on Mars was his home until natural death ended his spatial life. The resolve to make his last days free of self-reproach was stronger now than it had been in those terrifying moments when the meteor swarm battered the ship. He had a promise to fulfill, a promise to the colonists of Mars who had spent the savings from exhausting labors to make his trip possible. While there was oxygen to breathe he must do everything humanly possible to carry the cargo to colonists who hid their yearning and waited.

The long apprenticeship under Pete Cable guided his fingers through the maze of wires, snipping, splicing, soldering.

"Memorize," Pete had hammered at him week after week. "Know your ship by heart from stem to stern. The day may come when time will not allow the study of books and diagrams, and the pictures in your brain will be all that's left between success and failure, or life and death."

Slowly the maze dissolved into neatness and new tubes replaced those shattered in the collision. The tubes drew power from the emergency generator and glowed warmly in the dim light, and he lifted the microphone to his lips.

"Calling Lunar Station. The *Reliance* calling Lunar Station. Waiting."

The sharp, directional beam probed through space and in seconds an answering one flashed back.

"Lunar Station receiving the *Reliance*. Go ahead."

"Captain Terence Hector to Captain Peter Cable, Lunar Salvage. Waiting."

WHILE the contact was being put through he pondered upon the favor he must ask of Pete and at the same time gave a prayer of thanks that Pete was the one to whom he could turn. Pete and his great tug *Samson*. Any salvage operation in space was a costly one, but rescue of the *Reliance* would bring—could bring—no profit for Lunar Salvage. The last dollars of Mars' aging colonists had paid in advance for the voyage and its cargo. There were no dollars left to pay for salvage, while the cargo, so precious to them, was worthless anywhere else in the System. Yet Pete would help him if it were possible, if the *Samson* could be brought out in time. The long years of working the planets, side by side at the controls, had created a bond of the deepest respect and admiration stronger than the ties of kinship. Pete would help, if there were time. . . .

"Lunar Station calling the *Reliance*. Waiting."

"Go ahead, Lunar Station."

"Contact Captain Peter Cable direct; repeated, contact Captain Peter Cable direct. Tug *Samson* now in sector five, one hundred thousand miles your station. Acknowledge. Waiting."

"Acknowledged. *Reliance* breaking off with Lunar Station."

Captain Hector chuckled with pleasure. He should have known Pete wouldn't sit around waiting to be asked.

With firm hands he swung the antenna. Hardly had the call left his lips when the speaker boomed.

"Terence, you old spacedog! How many times have I told you to stay out of messes like this? Never would listen to me. How are you besides scared stiff?"

"It's about time you got here with that heap," Hector flung back. "Gathering stardust again, I'll bet. It's a miracle you're still solvent."

"People like you keep me that way," said Cable. "What you hauling in that sieve?"

Hector told him and for a moment there was silence. Then Cable came back, seriously. "Can you hold out?"

"Yes."

"Good. We'll save her, Terence. See you at 1900."

Hector glanced at his chronometer. Three hours. Well, if anyone could do it Pete was the one. Patiently he checked the mass of temporary patches on the control room bulkheads. Not until he was satisfied that they were as tight as he could make them did he fasten the plastic helmet and oxygen tank to his spacesuit and move into the airlock which separated the room from the rest of the ship. With a new sense of security he climbed back into the cargo hold to examine the precious crates.

SOMEHOW it would all be taken to Mars. The positive promise of the *Samson's* great bulk hurtling through space a few thousand miles away made that hope possible. Captain Hector did not think of himself and Pete as two old men battling the forces of space to bring a kernel of happiness to other old men. He did not think that the two aging men could have been seated in comfortable homes vicariously enjoying the heroic exploits of younger men through the realistic medium of trideo screens. . . .

"Good evening System viewers! This is your trideo reporter, Danny Patter, bringing you the latest reports on the *Reliance* which only two days ago collided with a meteor swarm and was smashed into a drifting derelict.

"At 1900 tonight, only 30 minutes from now, the powerful tug *Samson,* piloted by the able space master, Captain Peter Cable, will reach the disabled *Reliance.* Immediately an attempt will be made to take the *Reliance* in tow by means of the magnetic-field grapple recently perfected by Captain Cable.

"Under the old magnetic grappling method it was necessary to fasten the heavy towing cable directly to the disabled ship. This resulted in wrenching and straining of the hull. A ship as severely weakened as the *Reliance* probably would not have survived rescue attempts.

"However, using the newly-developed field method, it is now possible to build a strong towline of magnetic force between the two ships with little or no strain at all. This is accomplished by building the towline of force bit by bit while the ships gradually adjust themselves to each other's influence. When this operation is completed, the *Reliance* will be towed to Eros, where, because of the planetoid's minute gravitation, a landing can safely be made.

The question still remains: *why is this operation taking place?* Your reporter has been met with blank faces and tight lips whenever the question of the *Reliance's* cargo has been raised. The only logical answer, that it's plutonium to run the Mars colony's gigantic power plants is, unfortunately, not substantiated by informed sources. Experts agree that there is enough plutonium on Mars to continue generating power beyond the lifetime of the present colonists. And, as we know, there have been no new settlers on Mars for the past half century.

"The colonists of Mars have all the possible conveniences of life with which to enjoy a quiet, comfortable old age. Atomic power has given them food, clothing, and shelter. Intelligent use of the atom has given them green fields, flowers, and forests which flourish beneath the thousand square mile bubble protecting the entire colony against the vacuum of space.

"Whatever the reason behind it, we wish captains Hector and Cable success in their heroic salvage operations. Your System reporter also wishes to remind viewers that a special broadcast is being prepared to bring you first hand the landing of the *Samson* and *Reliance* on Eros.

"We hope also at that time to be able to present to you the courageous captains of the two ships in a direct broadcast to Earth.

"Now, once more to Eros base where air network experts will outline the technical aspects of the landing. It is an extremely delicate operation. . . ."

"Ready, Terence?"

"Ready, Pete."

"All right, here goes the power."

The control room deck trembled slightly as the magnetic beam slowly focused on the bow of the *Reliance.*

"Feel it?" asked Captain Cable.

"Like the caress of a mother's hand, Pete."

"The same. Might as well relax, now. It will be some time before we can build up enough for the tow. Give me a call if anything goes wrong."

WHILE the magnetic bond between the two ships strengthened, Captain Hector watched Mars turning slowly on its axis, the sun glinting on the massive bubble. A round, green emerald vivid against the reddish sand, it had grown, through the decades, from a tiny encampment of explorers' huts to a fertile continent thriving on the transmuted elements of the solid sea around it.

Dimly, he remembered the colony as he had first seen it—twenty years after the struggling settlement had been erected—a large, clear roof of strong, resilient plastic (only a fraction of its present size) covering the bare, dry soil. He recalled the individual hemispheres of varied colors, like a boy's collection of aggies half covered in a box of sand; the colonists called them "home." He remembered, too, the great, gaping hole gouged in the planet's surface where foundations for the immense atomic center had been under construction.

They were all young, then, with the enthusiasm and strength of youth to match their high ideals. Mars, not Earth, would be the center of trade in the Solar System. With its lesser gravity and thin atmosphere, the colony spaceport would become great. Perhaps, in time, it might even be the stepping stone to the stars themselves. And then the final crushing blow without warning. That same lack of atmosphere which could make Mars the home of the largest trading fleet ever known to man banished once and for all the deeply etched hopes of those who sought the freedom of space.

The enigma of cosmic rays. Deadly, invisible bullets passed effortlessly through the thin-skinned ships, battered the unprotected planet, thrust deep into the bodies of men and women canceling the genes of future life.

They had gone on because there was nothing left to do. There were no bridges over which to return to the promise of Earth. Those who had faced the menace of space with devil-may-care optimism to fill the System with the noise of trade, the hum of life, the cry of children at play, sank beneath the heavy gloom of their own reversed hopes. There would be no children. There would be no sons for whom to work, build, die.

And when they were at the deepest ebb of disappointment, the crushing blow fell. From the cloudbanks of Earth swept a fleet of ships, proud and swift, slashing through space with the high velocity of atomic-powered jets and boasting screens which flipped aside the deadly cosmic rays.

There was no longer any need for a base on Mars.

With only the spectacle of space for company, space which clutched at them with unrelenting hands, they settled down to make the slowly passing years as comfortable as they were able.

"Let us create a paradise on Mars," they cried, "which will be the envy of Earth!"

Each gave all that he had in time, sweat and savings. The great atomic center was completed and the colony expanded hopefully once more.

"Room for all" became the byword, and the bubble widened until it encompassed a thousand square miles. A powerful protective screen went up and they laughed—too late—at cosmic particles. Gardens, green fields, forests, gemlike lakes—all luxuriant in the clear, exactly-controlled atmosphere.

But there were limits to what atomic power could do—and the treasury dripped away the last dollars; dollars which could not be replenished for there

was no trade and few tourists. Paradise created not envy but sympathy.

"Come back to Earth and we will entertain you," the people of the Mother Planet said, "but do not expect us to waste time with that which life itself scorns."

That had been long ago. Finally there came the great meeting and the colonists pressed the cherished, worn dollars, saved for the rainy day which could never come, into Captain Hector's palm, not even attempting to conceal the pleading in their eyes.

"Godspeed, and bring your cargo to us safely," they whispered.

NOW they waited, a paltry half-million miles away, for the treasure that the space they loved had nearly snatched from their grasp.

Captain Hector turned his eyes from the planet and pressed the microphone button.

"How's it going, Pete?"

"We've been underway for the last ten minutes, you old day-dreamer. Look out the forward plate."

A thousand yards ahead the *Samson's* stern jets glowed faintly, at first, then brighter with increased power. Hector's hand rested more firmly against the steel rim of the bow viewplate as each second added weight to his body. Again there was nothing for him to do except pray that Pete's expert judgement kept the situation under control.

Hours later he heard the welcome words.

"Eros dead ahead, Terence."

Sunlight flashed on the planetoid and Hector crossed his fingers. The coming hour would tell. In the next instant the *Reliance's* bow pitched wildly and he clutched at handholds to keep from being thrown against the steel deck.

"Terence, are you all right?"

"Okay here. What happened?"

"Meteorite disrupted the towline. I cut the power to ease the shock. Is she ho'ding together?"

"She'll hold," said Hector, grimly. "What now, Pete?"

"You're swinging in a wide loop back towards Mars. I'm already on your tail."

"Can you right us?"

"We'll try. Better put your suit on."

Hector climbed clumsily into the spacesuit and replaced the oxygen tank with a fresh one. He glimpsed the *Samson* as it lumbered by to starboard and moments later the *Reliance* bucked under the groping magnetic field. Air hissed rapidly from the control room as new seams opened and Hector snapped shut his helmet.

There was nothing he could do in the bow; he passed through the now useless airlock into the hold and flashed the beam of light from the torch along the rows of plastic cases. With the deck unsteady beneath his feet he began checking the air supply of each.

The *Reliance* and *Samson* nestled bow to stern on the immense landing apron of Eros base. Trucks ran back and forth in a steady stream between the two ships, transferring the *Reliance's* precious cargo to the *Samson's* storage rooms. From the broad window of the base's control tower, Captains Hector and Cable watched the operation rapidly approaching completion below. Behind them Danny Patter exhorted technicians to speed the synchronization of the tri-di cameras, anxiously checking and rechecking his chronometer as the minutes ticked away and broadcast time neared.

"All right, gentlemen," he said, calling to the two captains. "Two minutes to go. Will you take your places, please?"

CAPTAIN CABLE turned from the window and Hector followed him. Both took seats side by side at the table containing models of the *Samson* and the *Reliance*. Danny Patter sat slightly apart from them, but within the camera's field of view. He glanced again at his chronometer and signaled the technicians as he began:

"Good evening System viewers! This is your trideo reporter, Danny Patter,

who is privileged tonight to present, on my right, Captain Terence Hector, courageous skipper of the disabled cargo ship *Reliance* and, seated beside him, Captain Peter Cable, in command of the space-tug *Samson*, whose brilliant rescue of Captain Hector's ship will go down in the annals of space history.

"Captain Hector, I'm sure the System viewers would be highly interested in your story of what happened to you and your ship off Mars only a few days ago."

Hector quietly outlined the events of those dangerous hours up to and including the *Samson's* arrival on the scene.

"Thank *you*, Captain Terence Hector. Now, Captain Cable, perhaps you could demonstrate to the System viewers how you accomplished the rescue of the *Reliance*, especially after that critical moment when a meteorite cut the magnetic towline between the two ships."

Captain Cable, as matter-of-fact as Hector had been, demonstrated the rescue operation with scaled models.

"Thank *you*, Captain Peter Cable. Thank both of you for your first-hand reports of what actually happened to the *Reliance* out there in space."

Danny Patter glanced casually at the chronometer strapped to his wrist.

"We have a few moments left, gentlemen."

He lowered his voice and said, confidentially, "There has been considerable speculation as to the cargo the *Reliance* was carrying. It must be of immense value to have been worth your courageous rescue. Naturally, we don't expect you to break a confidence, but could you, gentlemen, give us some idea of what that valuable cargo is? Plutonium, platinum, rare gems for the colonists of Mars?"

Captains Cable and Hector looked at each other and simultaneously broke into broad grins.

"Butterflies," murmured Cable.

Danny Patter was speechless.

"Bees," smiled Hector.

Danny Patter's face contorted.

"Grasshoppers."

"Fireflies."

"Crickets. Loud, cheerful crickets!"

"Birds. Sleek, sweet-singing—"

"Thank *you*, gentlemen," a flustered Danny Patter broke in. "Unfortunately our time is up. We're a little late, System viewers, so until tomorrow at our regular time. . . ."

They watched the Mars colonists, all of them aging but unbowed by the planet's slight gravity. Tall, spare men, with alert eyes dimmed through silent tears of thankfulness, tears hiding, for a moment, the deep loneliness for other life. One by one the jetcopters rose into the perfect air of the colony and swept away to the fields, the lakes, the forests, bearing their plastic crates.

The last plane dwindled in the distance and they shuffled their feet. The Mars colonists clustered in silent groups. Finally they began to drift away, back to their homes to wait hopefully for life to spread, for the sweet call of birds, shrill chirps, spots of radiant color fluttering over the green fields.

Slowly they moved away, the group faded. But one, whiter haired, the deep seams of age etching his hands and face, stopped; others stopped with him. He turned up his face in an attitude of rapt attention, cupping one hand to an ear. He was absorbed in the sheer effort of *listening*.

And in the deep silence that surrounded him he quavered, "I hear . . . I . . . hear . . a . . . bird!"

Raising one trembling finger he pointed, smiling, to the sky. "I *see* a bird. Oh, thank God, I see a bird!"

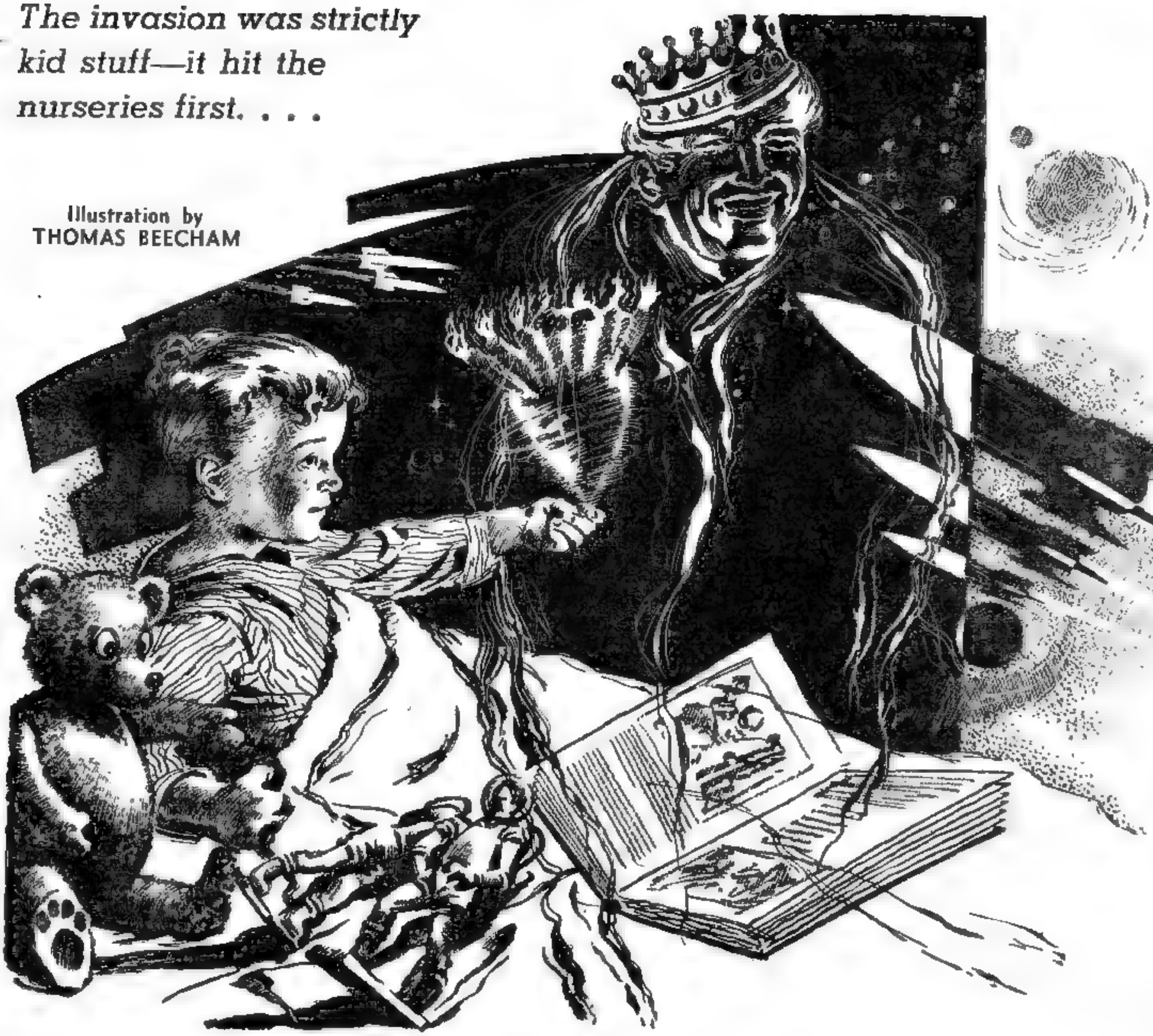
COMING NEXT ISSUE

THE LOTOS EATERS

A Remarkable Novelet by BOLLING BRANHAM

The invasion was strictly kid stuff—it hit the nurseries first. . . .

Illustration by
THOMAS BEECHAM



"Dance on my hand," said Wee Bo'sn, "I dare you!"

The Red Night of Twea

By R. J. McGREGOR

KING KORIS alerted his people, "Two ahead. We'll taste them." He dispatched his offspring, Twea.

The green meteor ignored the outer planets. It rushed to Mars, engulfed it, left it, and swept on. In the Earth sky it quickly grew as big as the moon.

ADMIRAL LAFFERTY was a big, bluff, strawberry-faced man. He sat tweed-jacketed in his home study with a pipe and a book, a brandy and a crackling fire. His musings dabbled at the day's events. They moved to that social, frigid, vacationing creature, his

wife, and veered away. They accepted pleasantly his small, warm son, Wee Bo'sn, upstairs in the nursery. But of a late habit they focused on the new governess who thought Wee Bo'sn was "so dah-ling." An amazingly bosomy wench with a disconcerting habit of wiggling her toes. Nurse Wainwright certainly had her points . . . the Admiral almost leered.

Then he disciplined away this treacherous trend and forced his eyes to traverse the upside-down lines of some book.

WEE BO'SN, whose real name was Lawrence, glanced up and scowled with four-year-old cunning at Old Glom, whose name was really Miss Wainwright, and whose age was twenty-four.

She stepped inside the nursery like a towering fairy statue of ivory and golden hair. She stood there smelling like flowers and smiling down from her dizzy height. But it was her toes that were most marvelous. They peeked out of her open-pointed shoes. Their nails were painted shivery gold and inside her silver stockings they wiggled like skippery baby white snakes.

He pretended the gold toenails were splendid big snakes' eyes and they winked in the light so he winked back.

"We must put away the toys now, dah-ling," she said. "Like daddy taught us." She went around making sure all the nursery windows were locked and she straightened three dangling space ships which Wee Bo'sn had had chasing the cow over the moon. "Bedtime," she crooned, like always. Then she said, "Into the closet with the teddybear, too."

He brushed back his long, golden curls and stacked up the blocks and put the tops and jacks and tri-di-toys in the closet. And last of all he stuffed in Big Teddybear.

Big Teddybear had been very quiet lately.

He let her wash his hands and face and finally tuck him in. He pretended sleeping when she snapped out the light and clicked the door lock. He lay there till her sharp, bright shoe-sounds were gone and two more far-away doors clicked and all was dark and quiet.

Then he reached and got the flashlight under the mattress and he pulled out twenty space sailors and Small Teddy Bear and he hunched his back and made a tent of the covers and started another war.

This Small Teddy Bear was only half size and it couldn't talk either anymore. It used to talk lots when he was little. But now it just leaned against the pillow and stared at his war with bright, dopey eyes.

And then he heard a faint high singing like a very big bee outside his bed and he threw off the covers and shined the light.

It was a wonderful toy top that spun and sang on the window sill. It was quavery blue light with red sparkles and it bounced. It bounced right through the window pane. In and out. And in again. It had two round green eyes and a kind of red mouth. It had two little arms that could wave and go up and down or anything while all of it whirled faster than the very fastest top.

"Hi," it said, "I'm Twea."

"Tops don't talk. They just sing," said Bo'sn, blinking.

"I'm different," said the top, whirling faster on its down-point because it had nothing else to walk on. "I'm Twea." Wee Bo'sn stared. The wonderful toy spun across the floor and up the far wall and came back upside-down on the ceiling. And then it zoomed around the room in the air making lovely singing sounds and changing colors over and over again.

"You're just a dreaming toy out of a fairybook," said Bo'sn, shaking his curls. "And you're not even real."

Twea hummed closer and hung in the air. His sound got smaller and his

colors grew dimmer and his piping voice cried,

"You mustn't say that, Bo'sn. I'm really real. I'm Twea."

"Then dance on my hand. I dare you."

Twea did. And it was wonderfully tickly and prickly. And there, spinning on his small hand, Twea grew ever so much brighter and more beautiful.

"Well, let's play," said Bo'sn, climbing to the floor.

"Go get Big Teddybear," suggested Twea.

"But he can't talk anymore. And anyway Old Glom locked the door."

Twea turned bright blue and spun perfectly still. His green little eyes blinked like crown jewels.

"Bo'sn," he piped, "will you really believe I'm real if I bring Big Teddybear and make him talk?"

"Cross my heart." Bo'sn rubbed his blue eyes wider.

He watched Twea go right through the middle of the closed-locked door and come back quick with Big Teddybear.

Big Teddybear said "Hi," and waved a stiff arm and came over to the bed by himself.

They bounced a while and they played a game with Twea hiding under the pillow. Big Teddybear was clumsy and mostly kept falling down and getting up again and just crawling like a bear.

Then Twea had to go away.

"You mustn't tell Old Glom or Admiral Daddy or anybody about me," Twea said. "Because I'm really real from a beautiful fairy book and they wouldn't believe it."

Bo'sn promised twice. And then Twea cried, "I'll come back," and waved. Then he sang away all fiery and beautiful through the glass and up over the roof.

Now Big Teddybear couldn't talk anymore.

MISS WAINWRIGHT was sitting on the arm of the Admiral's big overstuffed chair by the fire, as she often had of late. She was leaning lightly to the left so that parts of her softly touched against him.

And she was saying softly, "Please don't say anything. You don't have to. I understand."

He chuckled inwardly, yes, by dawn, I think she does. Then he was absorbed by the way those gold-nailed toes writhed. Made a charming contrast with the web stockings and the open-toed white suede pumps. He made a mental comment that it would be considerably "safer" around here when his wife ended her vacation. Then he was thinking up ways to extend it.

"I'll go up and look in on Lawrence," she said.

He patted her as she left.

She was back in five minutes, white faced. She stopped at arms-length from Admiral Lafferty, dramatic with her hand at her throat and her lovely eyes wide.

"Laffy," she said, "someone's been in the baby's room."

"No." He leaped up.

"I swear. I saw him put his teddybear in the nursery closet before I locked him in the baby-dorm. *Locked him in,* do you understand? Now he's sleeping in bed with the same teddybear." Her voice thrilled shrilly up the scale. "All the windows are tight."

He sank down, smiling. "Your imagination."

"It's a special lock. No pass key could—"

"You take him to bed with you, then. I'll see to it."

She nodded. She looked out the window. The snapping fire had gleamed soft against her face. Yet now the room filled suddenly with a red glare from outside. She screamed and he rushed to look out.

"The sky," she gasped. "It's like dripping blood." She clutched his arm with amazing strength.

"By damn, I'll have somebody's head for this," the Admiral roared. "That's

the secret Earth defense — the Red Screen. It's the last resort from space invasion. And some fool's advertising it to the universe." He spun around. "Where's my tie? Why haven't they called me?"

"You—told me to cut them all off. So we could—be undisturbed."

"Well, I'm plenty disturbed. Turn on the screen."

In an instant the President's face was staring tensely out of the viewer.

"Staff meeting in ten minutes, Lafferty," the President said quietly. "I'm afraid it's the real thing."

THE PRESIDENT was in pajamas and so were some of the chiefs of staff. Lafferty had been partially briefed on the way down. He dished out derisive glances as several of the older statesmen attempted to observe trembling protocol at a time like this. Then they were quiet as small fearful boys.

"In the past hour," said the President over his massive desk, "we've lost communication contact with Mars Colony. And in the past hour a green celestial body was observed to approach Mars. It appeared to pass through that planet and on. It's brushed the moon and is standing off Earth's electronic Red Screen."

"Sir," said Lafferty, "you raised the screen with our fighting fleet trapped—earthbound."

"We haven't been attacked, Admiral."

"Not yet," someone said.

An image of the green celestial intruder showed on the Chief Executive's telescreen. The fuzzy picture was being piped through a colorblot circuit especially rigged to pick up spacial objects outside the Red Screen.

The commissioner of science said, "It could be a guided missile of cosmic proportions. It has blanked out most broadcasting, but apparently lacks gravitation or mass. Assumptions beyond that are largely guesswork at this stage, however—"

Lafferty stood up. "Guesswork be damned, sir. We'll give it a bellyache with one of our Z-bombs."

The old men nodded white heads, especially after the President said:

"It's our only formidable offense. But let them make the first move to break the peace."

Lafferty gritted his teeth and nodded. The President was an able poet, a good statesman. But when it came to war—still, orders were orders. He looked at his watch.

"The Red Screen is an expensive miracle of science, Admiral. It can exist but twenty-three hours longer, draining maximum output from all earth fission power stations. But fissionable material consumption to maintain the screen that long will set back earth culture to the piston age. And we have no piston fuel. It's a choice of quick, decisive, victorious action, Admiral—or virtual annihilation of civilization, self-administered. Perhaps you'll find their spokesman. Negotiation, appeasement if needs be—"

Lafferty leaned to the communicator. The War Channel cut in at a touch of his thumb and a commander's pinched face burst on the screen and said, "Yes, sir."

"Fleet ready for 2100 hours takeoff. And load mine with Z."

The commander gave another "Yes, sir," and faded, mouthing a terse order.

BEHIND the red screen Twea cried, "Father, Father, Father, I can't get out."

"Then stay," messaged King Koris.

"I'm afraid," called Twea.

"You can't get out. We can't get in. We'll wait."

"And I'm hungry, Father."

"You shall eat. Did you go where I sent you?"

"Oh, yes," said Twea. "And we played pleasant games together."

"But does the cub believe in you?"

"As much as I believe in him."

Koris sent an emission of gratitude. "Then we shall not long be hungry, smallest one."

"It's lonely inside the red screen," cried Twea, beginning to wail.

"Remember you are the son of the King," Koris reminded. "Be silent now."

FROM THE flagship bridge the Admiral signaled the 2100 hours blast-off. He wondered if the Navy would ever call him Old Firebelly Lafferty again. There was a neat bit of radar triangulation to time the Red Screen drop as the fleet pushed through. And then it rebuilt, impenetrable, beyond all atmosphere.

Astern now Earth was a blood-red ball so large it crowded the moon. Ahead loomed the illogical enemy, a pallid sun of icy chlorophyll the size of Earth, flickering, unsubstantial. Fourth-dimensionally spherical. Unearthly, beautifully ugly, beyond familiar definition of ship, beast or planet.

And in the middle was the great Admiral, apparently going to his first battle. Hitherto space had been Earth's extended sky—empty of enemies except natural hazards.

For a moment the commander forgot rank. He clutched Lafferty's arm and said the very obvious thing:

"They've launched a fleet. And it's moving in near light velocity."

The Admiral glanced at his bug-eyed ship-master, who dropped the clutching hand and said:

"Perhaps a maneuverable planet with a green force screen," and this time he added, "sir." He pointed to the port view bank. "Sir, on the close scope. You can see right through their ships. And the ships are fair copies of ours."

Lafferty staggered his formation and stood by while the enemy circled, slowed and closed within range at zero all-relative velocity. Their flagship swam abaft of port, a green wavering ghost-ship. Magnification showed crew-creatures peering out ports and crawl-jets ablast.

"They're feeling us out," said the commander.

Lafferty ordered up skin screen and licked his lips. "The President said let them make the first move." He felt his muscles crawling.

The commander only said "Yes, sir," in sepulchral tones.

A long three minutes passed, an interval utterly unlike the Admiral had imagined his first encounter would be. He kept imagining two small eggs resembling himself and the commander quick-frying in a beam stove.

"Why don't they *do something*," said the commander.

"They are."

The close scope showed action aboard the alien craft. Blurred, transparent movements. Then a green flame staggered like a drunken searchlight and slashed across Lafferty's vessel. It flared the skin screen to ultra violet, nothing more.

The commander sighed, "I hope that's all they've got."

"My turn," said Lafferty. He reached to the firing bank and stabbed a blaster shot dead center on their longitudinal axis. "That should have cooked them," he frowned. No damage showed. The ship lay stationary, unhurt, as if daring use of a worthy weapon, waiting.

"They asked for it," said the Admiral. He squeezed off a Z-robot torpedo and he heard the commander's breath hiss as the missile scored amidships. There was a slight sunburst. Then the enemy appeared intact—and larger. Not closer. *Larger.*

"What does it mean, sir," whispered the commander.

"Means stalemate, unless they're toying with us."

Lafferty wished the man could restrain himself from echoing the eternal obvious. He started donning a spacesuit.

"Sir, they're coming alongside."

"It's the next logical step. Help screw me in."

"You going out alone, sir?"

"Take care of the fleet." Lafferty stepped into the inner lock.

HE STEPPED out into a bad dream which, after the first long look, could hold no more terrors. Perhaps it was less terror than total paralysis of feeling. For as he pushed off from his ship he left all logic behind. He adjusted his shoulder jets and inched across to the yawning boarding port. Inside it a figure waved a man-like arm in truce or greeting. He had noted first that the other ship had no air locks. Simply the open port, guaranteeing space-vacuum inside the vessel where animated figures waited.

Just as the ship impressed him as something hastily patterned after his own, so his greeter seemed. He stepped aboard, mildly surprised that his massive boot contacted substance. A male figure in robes and royal headgear faced him, offering a handshake. Lafferty experienced, even through his space-mitt, a tingling electronic transference which seemed—outgoing. It left him a little weary.

"I am King Koris," said the figure whose uniform green vacuity suggested, like all of his ship and crew, that all this was conjured out of nightmare for a reason subtle as it was monstrous. The King was a man-shaped cloud of unstable electronic tornado.

The amenities were commonplace, except that Koris said:

"My kingdom has no name, nor my planet."

Lafferty noted belatedly that no object in the ship cast shadow, including the King. Through the ship's deck he could see the red-screened Earth, his own fleet, regrouped and dwindling—and Koris's stringing out astern.

While they sped toward the planetary intruder without sound or vibration, Koris neglected to explain many things. And he made no mention of their exchange of fire. But he did say, rather obviously like the commander:

"You'll find our world interesting. It's from another galaxy and another dimension. Our reality may seem illusion, but you can walk on it."

Then they were landing on a substantial planet surface, no more or less acceptable as real than the King or his fleet. There was commerce bustling and a great city. There was a whisking vehicular trip to a suitable king's palace, and there was landscape and vegetational adornment—all thriving in vacuum.

The Admiral made repeated acceptances like a circular tape: that the palace floor and the King's chamber furniture with its table of rich fruit—were real. He could see the table through the King, the King through the table, through the floor, through—

He stared out a window at the city. The city was gone. In its place was a great boiling plain and heaving, vaporous mountains. Once again the city flashed solidly before him with all its shadowless bustle.

"You have seen my world. All there is to see," said Koris. "I brought you for that reason. I thought that some similarity to your world might instill confidence. But perhaps the differences are too great."

"There are no similarities," said Lafferty, shaking his head.

"Then listen to the truth. The city, the planet, our ships, the palace here—all our people—are one and the same. All beyond your concept of substance. All interchangeable at the King's whim. Nevertheless we exist by mass agreement in any state. And I am King as much as you are Lafferty. We regret destruction of your Mars Colony by error. We were curious and came close to examine, meaning no harm. We were attacked, surprised at finding life, and fearful. We used our only weapon,

which against your Earth's Red Screen is impotent." Koris gave an earthlike shrug, and Lafferty marveled at a swirling bowl of grapes through the slight obstruction of Koris' robed form. He observed that for a moment Koris had no legs, but rather tapered to floor level much like a toy top or the tail of a miniature tornado.

"We of Earth don't forgive our dead easily," he said.

"Nor we," said Koris. "We deeply regret our inability to restore your form of life. We are a peaceful people. We seek only our own origin. There is apparently nothing like us in the universe. Nor like you. Yet we believe we were once like you—flesh, substance. Some cosmic accident, perhaps. We seek an exchange of culture. We are a literary people. Our books—oh, they exist, and can be rendered useful to you—in exchange for yours. Withholding your science if you distrust our use of it, though it could not apply here. Your culture. Traditions. Your gods. The things you were and are. That is all we ask."

Lafferty closed his eyes, tight. And to no particular gods he gave suspicious thanks.

"Koris," he said, "no request of yours could have surprised me more, or been more welcome, or simple to comply with—if you speak the truth."

"What suspicions have I roused?"

"A thousand. None," said the Admiral. "Take me to my ship as quickly as possible."

"That could be arranged very quickly indeed," smiled Koris. "And I shall be honored to accompany you there."

"MY SON, Twea," called Koris. "Answer me."

"I am still here, father. And I have played with all you said."

"You must stay longer."

Koris watched the Admiral's fleet dart earthward. The Red Screen collapsed for a flick of entrance time and rebuilt. The King, his crew, his fleet—all—resolved togther in a flash and hurtled, formless, to join the great green shapelessness that hovered by the earth.

"Father. My father," cried Twea. "I am hungry."

"Then wait and be silent, my son."

The strain had been very great.

THE RED night was almost spent. It was four a.m. and the President seemed happy. There had been conferences, much study, much talk. Little sleep. The Red Screen had filled the earth with its strange electronic pressures and odors, inducing universal giddiness, intolerable tension and naked fear.

The Red Screen flicked one last time and many faces remarked it from the President's study window. Its significance was confirmed by a war channel reporter in one clipped sentence.

"Well, gentlemen," said the President, "our freighter is landing. Bearing one million one-volume complete-and-simple alien world-books. They already have ours. The cultural exchange is finished. And peace is assured with their promise to leave."

"Mere words," said Lafferty. He omitted the "sir" custom required, and his strident voice was a challenge nobody cared to honor.

"It's not inconceivable they have a code of honor," said the President mildly. "True, the Martian incident was both terrible and unfortunate, but I'm sure even your military militance must admit they've acted in good faith, and with courtesy."

"What's to prevent them from returning"—said the Admiral—"from wiping us out in a wink like Mars if we drop the Red Screen between us?"

"If not their honor, then our Red Screen," said the President, "sir."

"Which," Lafferty cried, "will collapse of final exhaustion in some fourteen more hours of intermittent or continuous use, leaving us naked in space and helpless as babies."

"They don't know that," said the President.

"Sir," said Lafferty, "I'm repeating the request I made to you personally before all these chiefs of staff—give me a few hours with a scout ship fully equipped with analyzers and I think we could discover their weakness. Or more bluntly, a way to destroy them first."

The President sat down. He folded thin hands on the desk.

"You military men oppress me, Lafferty. Yes, even frighten me. You say, what's to prevent them from returning with death for all of us?" He smiled sadly. "Perhaps a sense of universal brotherhood. Perhaps, after all, they are our original kinsmen. I have looked into one of their books." He opened it on the desk, shimmering unstably like a green, unfocused image in four dimensions. "Their whole story in one volume," he said. "In clear, simple, poetic language. Beautifully illustrated."

The book looked almost real, but it cast no shadow.

"Folklore," mused the President, leafing the pages. "Religion. A sense of humor and of unity and interdependence with their fellow—beings. It's all here. And if it's the whole truth, as I believe, they're more godlike than we. Note, here," he pointed to an illustration. "The story admits of minor vices. 'Human' vices, you might say. Of Free Will and a cultural conscience. . . ."

"Then," said the commissioner of education, "shall we distribute the million volumes to the schools—as you suggested?"

"Immediately," said the President. "I deem it most fortunate we've so many, and that they're simple enough even for children. I suggest all teachers direct them to be taken home for study. Perhaps our adults can learn a little tolerance from non-humans."

The education commissioner nodded.

The President's screen glowed and adjusted. "Sir," said the fleet commander, "our scouts report the green planet has vanished."

"True to their word," cried the President. He favored the Admiral with a knowing glance. "I shall drop the Red Screen now." He pressed a tiny switch under his executive desk which opened all the Earth's great power circuits. His gentle touch banished the fearful red sky. The windows showed the morning stars and milky wisps of dawn.

"Admiral Lafferty," said the President, "My heartiest congratulations for courage and resource. Earth is in good hands. And, Admiral, wipe that worried frown off your face. Go home and get some sleep. That's an order."

AS THE day waxed, the sleepless population was informed of the significant events. The unfortunate smell and feel of the Red Screen waned. It made a great story on the communication channels that morning. The simple tales of the happy, wayward planet were on tri-di videa in rainbow colors before the day was out. The children took the books home. Families read them with pleasure. The illustrations were weird —but lovely.

Of course, they weren't believable. A mass feeling grew that it hadn't really happened at all. Some test operation of the military, perhaps, to cover some careless catastrophe on Mars. And Mars was very expensively distant, and its colonists were not the Earth-tied type. Mourning was scant. Sundown came.

Then pilots and astronomers and romantic stargazers noted an odd thing in the sky. Glowworms in space. A starfall.

It was no ordinary meteorite shower, announced the experts. And a ship dispatched to investigate confirmed. It brought back samples. Of books. Earth books. Falling from space.

Then they began to strike the ground, charred cinders of travel books, novels, biographies. The whole Earth culture in print. Dumped out of space.

Even the President thought it strange. . . .

WEE BO'SN sat in his nursery staring at Big Teddybear, who simply refused to talk or play anymore. He wasn't interested in his other toys. He was bored. And Old Glom noticed.

So she brought Bo'sn one of the strange, lovely books.

"Lawrence, dah-ling," she said, "here's something nice, just from me to you. You can look at the pretty pictures, but you must be very, very careful and not tear any pages."

She handed him the book Admiral Laffy had brought home that morning and he took it and stared at her wiggling, twinkly toes till she went away.

Down the street it was raining and the great, shiny cars whizzled by, making pretty splashes. But Old Glom wouldn't let him go outside. Other kids were out there. And their dogs, too. The windows wouldn't open and it was much too high to climb down.

So he finally picked up the book.

Then Big Teddybear said, "Hi, Bos'n."

And through the window came Twea, who was smaller now, and not very shiny and sparkly. And he didn't spin so fast. But he danced in the air and he came down whirling like a top and said "Hi," again. "I'm Twea," he cried, "remember me?"

"Where've you been, Twea?"

"My father wouldn't let me come. Not till now."

"Where's your father?"

Twea pointed to the book on the floor. "He's in that book."

"Let's find him," said Bo'sn.

Twea whirled so close he made Bo'sn's arm feel all prickles even without touching. And he whirled and whirled and flipped the pages fast as anything till there was a picture of his father.

"He looks funny," said Bo'sn. "And he's too little."

"But he's really big as a mountain." Twea spun on Bo'sn's hand. "Do you believe I'm real now?"

"Real as me and you and Teddybear."

"Then my father's real, too," cried Twea. "He said you must believe that, so he can wake up."

"Sure," said Bo'sn.

"He'll let you come off the page, Father," cried Twea, circling the book.

The picture of his father moved. Just some. Bo'sn wished hard as he could to help Twea's picture-father, who started to swell like a balloon. It stood up and left a hole in the page like a doll cut-out. It started whirling, like Twea, and it didn't sing, it roared, and it grew and whirled and filled the room and went up through the ceiling and the roof.

"He was just in a hurry," said Twea. "He's very nice."

Bo'sn looked at the opposite page. "Who's this?"

"That's my Uncle Flavour."

"Let's bring 'em out of the book. All," cried Bo'sn, clapping his hands.

So they did. One at a time. And they all moved, and swelled, and stood up and whirled and grew like mountains and went up through the roof.

Then all the many pictures were empty holes in pages. And then the pages and the writing and the book cover went in a green teakettle fog.

Right then Twea's Uncle Flavour thrust his great, whirling washtub head through the nursery wall. It was very strange, because the head came out of Admiral Daddy's bedroom and it was chewing, like gum. Only out of its mouth something was sticking like celery with some of the leaves on. And this celery had wiggly, snaky toes with gold-painted nails for leaves.

Uncle Flavour went through the roof.

"Father says I've a million other places to go tonight," said Twea. "But I'll come back." He waved and spun out the rainy window.

It was all very new and exciting, because Bo'sn could hear grownups howling and screaming like kids up and down the rainy street.

But when Bo'sn looked out, even the dogs were gone. And all the cars had stopped driving.

And Big Teddybear wouldn't talk.

Illustration by
ALEX
SCHOMBURG

A movement in the shadows brought him to a sudden halt

M E B

By

ALFRED COPPEL

His mother should have warned him there'd be nights like this . . . .

THE fourth moon was retrograding and Jupiter filled the sky like a bloated giant as Spud MacMarty paced catlike and lithe down the littered Callistan street. From open doorways there came the sound of tinkling *flurfs* played by green hands, and occasionally, from a pleasure-palace one could hear the crash of breaking glass or the moans of maimed revelers.

It was the Night of the Dog, the first evening of the Callistan festival of fertility. A night no earthman should be abroad under the four moons. Yet there was a glint of grim amusement in Mac-

Marty's cold grey eyes as he walked through the shifting night shadows. He moved silently in his worn space-leather, staying close to the ancient, carven walls —and his hands lay lightly on his weapons belt.

He had left the lights of the Terran settlement far behind, penetrating into the labyrinthine passages of the Old City, the last stronghold of the Five Tribes, *Glumf, Yligth, Sreep, Ooop,* and *Ghaagh.* Old was the city, old and decayed with depravities too ancient for Terran understanding. MacMarty sniffed the air with flaring nostrils, filled with anticipation.

It was good to feel real ground underfoot again, thought MacMarty, narrowing his warm brown eyes against the yellow glare of Jupiter. Twenty months on a spacetub like the *RS Mabel Glutz* was too long to be away from the pleasures of solid ground. The methane-tinged air smelled good, far better than the hard vacuum of the Rings or the Belt. Almost in spite of himself, Spud began humming a tune he'd heard last long months ago in a bar in Lower Marsport on the Yakki Canal.

He let himself think of the Spaceman's Rest and a thin smile touched his spaceburned features. It had been a long time—too long—since he had shared a game of Callistan Blaster Roulette with Gzeena of the Golden Eyes. Unconsciously, his stride lengthened and his long, lean muscular legs worked like pistons, covering yards in the light Callistan gravity. His short cape swung briskly from his shoulders and his fingers touched his needler, blaster, the two hand grenades and the small vial of potassium cyanide he always wore around his narrow waist.

His voice rang clear through the night-sounds around him—deep and clear and full of good, Terran strength.

"She was only a poor Martian's daughter,
But she sure made Deimos of her charms—"

A song of the spaceways, a lyric from the heart of every astrogator and tubeman that ever lifted ship. Spud's throat grew thick with nostalgia as he sang.

"With Una from Luna, I'll head for Altoona,
And never, no never, no more shall I roam—"

A sudden movement in the shadows brought him to a frozen halt. His teeth clamped down hard, snipping the tip of his tongue and the taste of blood brought the old fighting man's lust surging up in him. His blaster seemed to leap to hand, and he stood there, sharp blue eyes probing the shifting shadows, waiting for he knew not what.

A LARGE astrolite blazed briefly across the sky, illuminating the street for a millisecond, and Spud caught a flash of gemfire in the darkness. He waited on the balls of his feet, poised to strike, taut and snarling.

"Ah," breathed a soft voice, "it is truly you. I should have known that song anywhere."

MacMarty's palms were wet and his tongue was beginning to throb painfully. He knew that voice!

"Had we met parsecs away, under the light of some alien star, oh man of earth, I would have known you." There was a crooning, dangerous, hypnotic quality to the voice—and yet it was warm and sweet, like *mrfii*-honey flowing over the lichen rocks of Phobos. MacMarty felt his pulse quicken.

"Yeah," he said. "Yeah."

"You and only you, of all your kind, would have the courage, raw and untamed, to seek the Old City on the Night of the Dog," said the unseen speaker.

MacMarty thought of the obscene Callistan fertility rites and bit his tongue again. "Yeah," he snarled, "now step out in the light and keep your hands in sight, see?"

"*Gllep fronistan spadoda,*" the voice said huskily.

The words were like fire in MacMarty's veins. High Yligthan! The lost and legendary tongue of the Five Tribes

who once, millenia ago, had ruled all the Four Moons!

Spud MacMarty suppressed a gasp as the speaker stepped into the lighted street. She was naked, but that fact did not conceal the lush curves of her pale green body, her high breasts, her full and rounded thighs. On her forehead gleamed a diadem, a faceted Sacred Cat's Eye, alive with alien fires.

MacMarty holstered his blaster and stepped back, his breath rasping in his throat. This was impossible . . . and yet—

"Gzeena!" he gasped. "What are you doing here? I saw you last in the Spaceman's Rest in Lower Marsport! On the Yakki Canal!"

"Oh, no," the girl whispered. "Not Gzeena, the dancing girl from Callisto. Zeena, Princess of the Five Tribes, of *Glumf*, *Yligth*, *Sheep*, and *Ooop*. Also of *Ghaagh*."

The muscles in the earthman's long, lean jaw worked spasmodically. Gzeena of the Golden Eyes and Zeena, Princess of the Five Tribes—one and the same!

"Then," he muttered, "it was all a game with you. Those nights drifting down the Yakki — those wonderful nights. All a lark . . ." His mouth etched itself into a hard, ugly line and his green eyes narrowed. "Yeah," he gritted.

"Oh, no! Please!" A delicate lavender flush suffused Zeena's delicate features and she closed two of her three eyes. "I meant the things I said as I lay in your arms, oh MacMarty, truly. I wished for nothing more than to be a simple, Callistan dancing girl with—" she drew in a tiny, shuddering gasp—"with you. But it was not to be. I must do what I must. My people needed me and I returned to the planet of my birth to fight—" she looked about her fearfully, searching the faces of passers-by who had been attracted by her natural beauty—"to fight . . . *Meb!*"

The quite substantial crowd that had gathered around them shrank back at the sound of the hated name. They muttered it among themselves, and it became a susurrating horror-sound in the night. Meb, *Meb*, MEB, *MEB!*

Overhead a rocket-trail streaked the night, lingering like a thread in the sky. The Io-Callisto mail packet, thought Spud alertly. Right on time.

Zeena laid a warm hand on his arm. "Help me, Spud. I need you more than ever." The contact of her flesh sent a hot-flash through the Terran and he rocked tightly back and forth on the balls of his feet.

"Yeah," he said.

Zeena licked her lips with a flashing, forked tongue. "Aid me, oh Spud of Earth. Your gun is quick. Help me and my people and there is no reward on the Four Moons you will not be able to claim for your own."

AS SHE spoke, she exuded the love-musk of the green Callistans, and a panting group of revelers gathered about her again. They devoured her with their yellow eyes and MacMarty drew his needler with a snarl.

"Get lost," he said through clenched teeth. "All of you!"

The Callistans scattered before his fury.

"Let's get started," he said, slipping an arm around Zeena's supple waist and crushing her lips with a kiss.

Her saliva was salty, driving him mad with desire. And yet a warning seemed to pound through his head like the beat of a Venusian *thrumble*-drum. Alien! *Alien!* ALIEN!

Who, Spud asked himself, was this Meb? What manner of hideous horror could Meb be?

Zeena disengaged herself suddenly and Spud staggered.

"What," he asked bitterly, "is the idea?"

"Time," Zeena whispered, "is vital. Meb hungers." She made a mystic sign on the pale green flesh between her breasts.

"What must I do?" asked MacMarty narrowly.

Zeena pointed at the retrograding moon. "It is there we must seek Meb."

"On Ganymede?"

"Even so."

Fine lines formed at the corners of MacMarty's wise violet eyes as his mind toyed with the mysteries of Callistan intrigue. Was it possible that Zeena would lead him into danger? He smiled and shook his head. No. Not Gzeena of the Golden Eyes, dancing girl from Callisto that he had known so well in the Spaceman's Rest in Lower Marsport on the Yakki Canal. Impossible. The very thought was specious and unworthy of him.

A group of revelers pushed them aside as they staggered down the narrow street singing the Callistan love chants in Venusian dialect. One of them was an amber-skinned dancing girl from the Happy Time Tavern in Lower Venusport. He remembered her well. She was naked, but that fact did not conceal the lush curves of her amber body. She smiled at him and MacMarty could see the chlorophyll surging close to the surface of her semi-transparent skin.

"We must go," snapped Zeena, bathing him in love-musk.

Spud wheezed asthmatically, his senses reeling. "Yeah. Okay."

Zeena led him along shadowed byways, through dark and fetid alleys. He was hard put to keep up with her, for even in the light Callistan gravity, his earth-trained muscles were no match for the pace set by her three legs.

"Quickly, quickly," Zeena breathed huskily.

"Have you got a ship? I don't like the idea of going all the way to Ganymede without one," muttered the Terran.

"Of course, we have a ship. Small, but suited for our purpose."

They stopped before a ramshackle building and Zeena tapped cautiously at the door. A robot brain within computed quickly the timed intervals between her taps, multiplied it by the air-pressure, cleverly divided by the cube root of three and opened the door.

The inside of the building smelled musty.

"Quickly," Zeena said, dragging MacMarty through the door into a zig-zagging passageway.

ROUNDING a bend, Spud skidded to a halt, his blaster and needler levelled. Before them stood a cerise-skinned Martian beauty. She was naked, but that fact did not conceal the lush curves of her spectacular body. She reminded MacMarty of someone, but he could not remember.

"What time," the cerise vision whispered huskily, "does the shuttle to Io leave?" She accentuated each meaningful word with a delicate wave of a tentacle.

"Great Space!" MacMarty cried in a strangled voice. "Now I remember!"

It was Greenela, a Martian dancing girl he had known in Lower Franisport on Goona, the fourth planet of Wolf 369.

"Greenela!" MacMarty cried unbelievingly. "You? Here?"

"Spud! I must warn you," the Martian girl said in a suddenly shrill voice. "Meb is—"

There was a flash of fire from somewhere behind her and Greenela vanished in a puff of oil flame.

MacMarty narrowed his cool amber eyes and pulled Zeena around behind him. "We are not alone here," he said through stiff lips.

"By the Ten Gods of the Five Tribes on the Four Moons," anathematized the Callistan woman tersely, "I think you are right, oh man of earth!"

A flood of green-skinned Callistans swarmed suddenly down the passageway toward them, their yellow eyes gleaming bloodily, light flashing gemfire from their wickedly curved scimitars.

Snarling his fury, MacMarty dove headlong into the teeming mass of alien

killers, deadly fire streaking from his blaster, stunning needlebeams flashing from his needler. Cleverly, he unhooked a hand grenade and put it in the clutching claws of the foremost Callistan.

"Hold this," he muttered meaningfully.

With Zeena in his arms he waded through the thick river of green blood that flooded the corridor into a small, hidden chamber containing—to his astonishment—a small, compact, three hundred foot space-cruiser.

"Into the ship," breathed Zeena, "quickly!"

He slipped into the airlock and slammed the outer valve as a shattering explosion demolished the entire secret-laden house, cleansing the face of Callisto of a foul and hideous lair.

ZEENA laid her head against his breast, trembling. "Spud, oh, Spud!" she moaned. "We are not yet safe. Meb still hungers!" Tears, like pearls, glistened on her bearded cheeks.

"On to Ganymede," snarled MacMarty.

"Yes!" sobbed Zeena—"oh, yes!"

Spud seated himself at the control board and stabbed out a tune of controlled viciousness on the firing studs. The cruiser shuddered, lifted, rammed its impervium-plastiglassteelite prow through ten feet of concrete and erupted skyward, its speed increasing with every fleeting click of the analitic-astrogational-computimer.

Since Ganymede was at that moment only 1,234,567 miles from Callisto, the atomijets of the powerful vessel drove Zeena and MacMarty across the blue-black void in milliseconds.

The cruiser settled into clouds of roiling methane and touched the frozen soil of Ganymede—the satellite-planet known to the Five Tribes as *Sapatoia-gavunkk*, or "Dreadful-lair."

"Will we find Meb here?" asked Spud MacMarty scornfully.

"Yes," the golden-eyed Callistan said. "But first—"

Her voice was heavy with desire, and the scent of her love-musk became overpowering. MacMarty felt the old, hot, longing for her.

"Yeah," he whispered. "First—"

A tiny globule of saliva gleamed like an opal on her right tusk. "Come to me, man of earth," she said.

Then she was in his arms and he was crushing her to him, hard, with all the stored up passion of twenty months aspace on the *RS Mabel Glutz*.

"Spud," she murmured. "Your hand grenade is hurting me."

Carelessly, joyously, he flung his weapons from him. "*Glavitta mepl stropotsk,*" he whispered in Yligthan. "Honey doll baby. . . ."

There was a strangled cry of hurt surprise in the tiny control room as Zeena sank a tusk into him.

"Zeena, my pet, you are hurting me," Spud said gently.

The Callistan licked her lips loathsomely. MacMarty's turquoise eyes widened. "Oh, no!"

"Oh, yes," slobbered Zeena hungrily.

"But how can you? Remember Yakki! Our velvet nights of love! Have I ever been anything but good to you . . ." MacMarty's voice died into liquid mumbling.

"That is a fact," said Meb licking her lips, "good is the word." She made smacking sounds with her tusks as she ate. "One might even say *tasty*."

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UNDERDOG

By WILLIAM L. BADE

Somehow, somewhere, Earth had to find the chink in the Hyadic Empire's armor

IT WAS noon at midnight.

Beneath an actinic blue-white glare, blaring, clashing autos choked the highways. Aircars fled screaming across the skies like debris in a hurricane. Sweating, panting, dry-throated men and women stumbled through the standing grain in the fields to escape the deadly proximitiy of the tall white buildings behind them.

High in the southern sky, where a glance meant blindness, there stood a

tiny fierce false sun. It was a blue-hot crater blazing in the surface of the Moon, a tremendous pit of boiling rock and metal—the grave of Earth's chief symbol of security against attack.

Ten-thirty. . . .

It was Wilbur Featherday's deal. When he picked up his own hand he had aces and eights, with a stray deuce. Prince and Loujack knocked, and Andersen opened for two red chips. Featherday called; so did Loujack. Featherday threw away the deuce and gave Loujack three cards.

Andersen wasn't having any. "Pat," he announced.

Featherday dealt himself a card and put the deck down. It was quiet down here in Central Base, three hundred feet underground. The soft hum of the air conditioning was virtually the only background noise.

Featherday picked up his hand and found that he now had a full house, aces over eights. Andersen placidly dropped a stack of five blue chips into the pot. Featherday smiled and raised five blue. Loujack dropped. Andersen re-raised ten blue. Featherday started to count out chips to call. . . .

For perhaps a second after the noise started, his mind refused to interpret it. One instant there was silence, except for the clicking of his chips as he stacked them. The next, a deafening klaxon blare was battering at his brain, like the trumpet of doom.

Which it *was*. . . .

The cards fell from his limp fingers to the table. He stared at the three other young officers, who were suddenly so pale.

The alarm!

He stood up with what seemed stolid deliberation, and was vaguely surprised to notice that somehow his chair had got tipped over. *The* alarm ceased as abruptly as it had begun. His ears were ringing. Two men ran full tilt past the door of the recreation room. Somewhere distant in the bright subterranean passages there were shouts and the frenetic wailing of a siren.

"Let's go," Featherday said hoarsely.

The corridor was rapidly filling with men who were in a hurry—jittery noncoms and grim staff officers. A loudspeaker roared overhead: *"All base personnel to attack stations! All fleet personnel report to ships!"* It repeated the message behind them as they moved on, and another speaker was shouting it somewhere ahead.

From rooms which they passed along their way there came the insane chatter of teletype machines, the babble of many voices, the scuffing of innumerable hurrying feet. At the end of the corridor, high-ranking staff officers were flooding into a tremendous room—Command Central.

The four men stopped before a door displaying a recently painted cardboard sign:

Briefing Room
OPERATION VENDETTA
No Admittance
to Unauthorized Personnel

Featherday fished a key from his pocket and unlocked the door. They went inside.

FIVE minutes later, all thirty-two members of the team were there. Featherday moved over to a silver-grey rectangle and flicked a switch. Cascading colors blurred on the screen, resolved themselves into a view of grey eyes set in a stern face and broad shoulders decorated with silver stars—General Stehle, the staff officer in charge of Vendetta. The General signalled a curt "stand by" in the direction of another screen, then turned to face Featherday and briefly return his salute.

"Featherday reporting, sir. Vendetta team all present."

"Good, Major. The tech men are servicing your ships and checking your weapons. Just stand by for orders. . . ."

Stehle began to turn away, but swiveled back as Featherday failed to break off telescreen contact.

"Well?"

"Sir, could you tell us what's up?"

"Hyadic fleet, of course," the General snapped. "Hundred forty-four ships. About a million miles out. They're just starting to move in."

The screen went dead.

It was ten-forty.

Featherday pictured in his mind the precise lattice of huge spherical ships moving relentlessly towards Earth. Fortress Lunar would probably hold its fire until the range was down to a couple of hundred thousand miles. . . .

Ten-fifty. The minutes dragged on. There was no conversation in the briefing room. Each man sat or stood brooding on his private thoughts. Featherday caught himself biting a fingernail. He lit a cigarette. Despite the air conditioning, the air in the room already had a bluish tinge from tobacco smoke.

Eleven o'clock. Lunar would be opening fire any minute now, if it had not done so already. Featherday envisaged clouds of missiles cascading upward from launching ports in the surface of the Moon, spreading out, and rushing with fantastic acceleration towards the enemy fleet. Many—most of them—would flash bright and vanish in space as intercepting fire from the Hyadic ships found them. But one might—*had to*—get through. It would veer as its radar eye saw one of the huge metal spheres looming ahead. Its suicidal little robot brain would guide it as it flung itself straight into the steel wall of that ship's hull. And at that instant, the matter fuse in its warhead would fire—and all the hundreds of thousands of tons of metal which made that huge vessel would convert to energy! Like a mammoth atomic bomb in the very midst of the Hyadic battle lattice, the ship would detonate, volatilizing nearby vessels and damaging the entire fleet. . . .

Surely at least one of the missiles could penetrate the defensive fire to score a hit! And yet—Featherday frowned uneasily—the armament of the Hyadic warships was a deadly unknown. . . .

How was Lunar doing?

Featherday considered calling General Stehle on the telescreen, but decided against it. The General must be very busy right now, and he was short-tempered even under normal circumstances.

AFTER a while, he opened the door to the corridor and looked out. There was some kind of commotion audible from the end of the passage, where the door to Command Central was. An impulse came to go down there and look in, but he extinguished it; he had to be here when orders arrived, which could be any second. . . .

The door of Command Central flew open and a young officer—a lieutenant—came sprinting out into the corridor. He collided obliquely with one of the walls, stumbled, and clawed blindly for support. His eyes seemed to be staring, not at the corridor, but at some terrible sight in the distance.

"What happened?" Featherday called as the man came towards him at a hurried walk.

The young officer's face and forehead were gleaming with perspiration. He seemed not to have heard the question. Featherday repeated it, louder this time: "What's happened? Has Lunar fired yet?"

The young lieutenant turned his head slightly, as though he were noticing Featherday for the first time.

"Lunar's gone," he said. "Burned clean out of the Moon." He hurried past, then looked back to scream:

"It shines like the sun!"

Featherday stood there, fury and despair slowly tightening his hands into fists. *Technological inferiority,* he thought. *Spears against machine guns,* rifles against atomic bombs. . . . Earth had just got started too late, by a few hundred years. That wasn't long, as time went in the history of stars and planets. But it was long enough to mean the difference between a fight and a massacre, between a free Earth and a slave-planet of the Hyadic Empire. . . .

His stomach congealed into an icy lump of fear. This was a job for Vendetta now. He and his thirty-one teammates would make their own oblique attack in the face of that superior Alanian armament. And if they failed—Earth would pay the penalty with billions of lives. . . .

"Featherday! Stehle wants you!" It was Andersen's voice. He strode back into the briefing room and over to the telescreen. The image on the screen was not that of Stehle, however, but that of an older man. Featherday recognized him and snapped to attention.

The Chief of Staff.

General Walter W. Moore looked at Featherday through the telescreen. "Major," he said quietly, "Fortress Lunar has been completely destroyed. None of its missiles scored a hit. Operation Vendetta is Earth's last hope. Good luck!"

He saluted and the thirty-two men in the briefing room returned the salute. He left and Stehle reappeared.

"Operation Vendetta will proceed as planned. Man your ships!"

ELEVEN-FIFTEEN.

Inside the little interstellar scout ship, Wilbur Featherday strapped himself into the control seat and flipped a switch which turned on the viewscreens.

Outside, in every direction, rows of ships extended towards the horizon—gleaming metal spheres several times the size of his own little craft and the thirty-one like it. The entire scene was in sharp relief—garish, like an overexposed photograph—in the blue-white glare of the incandescent crater where Lunar had been.

The speaker on his control board came to life. *"All fleet units lift on signal,"* it said. A moment later it emitted a brief high-frequency note.

Outside, as seen on the viewscreens, the hundreds of gleaming spheres trembled, shook themselves free of the ground, and floated straight upward into the sky like bubbles rising in a pond.

Featherday's little ship, and the others like it, remained stationary.

He swallowed a sob. The entire Terran fleet was going to meet certain and swift destruction. Two hundred thousand brave men were going aloft to attack in the face of vastly superior weapons, not in the hope of victory, but only with the purpose of screening the escape of the Vendetta mission into interstellar space.

"All Vendetta units lift on signal," the speaker said.

Featherday laid his fingers on the bank of keys set into the arm of the control chair.

Beeeep! His index finger jabbed down. The landscape fell out from underneath him. A rising sibilant whistle penetrated from outside. The viewscreens showed thirty-one similar craft, little metal balls, rising with nim. The whistle faded, the sky turned purplish and then black, and the stars came out from behind the glare of the Fortress Lunar crater. The vast curve of the Earth's surface slowly dropped away and became more convex. . . .

When the radar altimeter needle flashed past the two-hundred mile mark, Featherday pressed down with his middle finger on a second key.

The Earth vanished. So did the other rising ships, the Moon, and the blazing pit where Lunar had been.

Featherday wiped sweat from his forehead with the back of his hand. The easy part of the mission was over.

MIDNIGHT.

Chief of Staff W. W. Moore talked with the President of Earth via telescreen.

"But Walter," the President said, "was it necessary to go through with the attack—all the way? Couldn't you have had the fleet fire a salvo, and then land again? The Vendetta ships would still have been able to escape without being noticed. . . ."

Moore's shoulders were bowed. The attack had indeed been a terrible business. With incredible heroism and a prodigious expenditure of missiles, a por-

tion of the Terrant fleet had managed to penetrate to within twenty thousand miles of the Hyadic battle lattice. For perhaps a minute, hope had run high in Command Central that what had been planned as a frightfully costly screening maneuver for Vendetta would in itself achieve at least a partial victory. Then, heartbreakingly, that brave assault had dissolved into incandescent gases, molten driblets, and masses of fused machinery. The Hyadic superiority in weapons was simply too great to be overcome by courage alone.

"Mr. President," Moore said, "believe me, we tried and tried to find a plan which would avoid throwing away so many lives. But our every effort in that direction came to ruin on one point of difficulty. Not only must the Hyadics not *notice* the departure of the scout ships, they must not be able to *infer* it. We couldn't take the slightest risk of putting the Hyadic home defense forces on guard. We know that the Hyadic commanders are master strategists. We simply could not afford to give them any reason to suspect that the takeoff of our fleet was anything more than the usual preliminary to a battle. . . ."

"I suppose you're right, Walter," the President sighed. "But two hundred thousand men. . . ."

Moore nodded grim agreement.

The door of Moore's office opened and General Stehle came in, carrying a sheet of paper. "A message, sir," he interrupted. "From the Hyadic commander."

Moore took the sheet and read it:

FROM: LORD SHOGUL SHAPURIQ
COMMANDER, TASK FORCE 211
IMPERIAL FLEET, ALANIAN EMPIRE OF THE HYADES.
TO: COMMANDER, MILITARY FORCES OF EARTH.

THE SHIPS OF MY COMMAND ARE NOW IN POSITION TO ANNIHILATE ANY CITY OR OTHER TARGET ON THE SURFACE OF EARTH.

SURRENDER TERMS ARE AS FOLLOWS:

1. FORCES OF THE ALANIAN EMPIRE OF THE HYADES WILL LAND ON EARTH.

2. ALL EARTH GOVERNMENTAL AUTHORITY WILL BE TAKEN OVER BY IMPERIAL HYADIC MILITARY OFFICERS.

3. ALL EARTH MILITARY FORCES WILL BE DISBANDED.

4. RESISTANCE TO IMPERIAL HYADIC MILITARY PERSONNEL WILL BE PUNISHED BY DESTRUCTION OF CITIES AND OTHER MEASURES AS NECESSARY.

FAILURE OF THE EARTH MILITARY COMMANDER TO ACCEPT THE ABOVE TERMS WITHIN ONE TWENTY-FIFTH EARTH REVOLUTION WILL BE CONSIDERED AS RESISTANCE.

Too soon, Moore thought. *They're rushing us—we'll have to stall them as long as we can. . . .*

"What is it, Walter?" the President asked.

Moore apologized and read the message aloud to the telescreen. Then he summarized his misgivings. "I can't negotiate effectively until we have reports from all the Vendetta ships."

"Do you think they'll come in on time?"

"I hope so," Moore said. "But if there are any delays—it could be bad."

TWELVE-FIFTY.

That tremendous room, Command Central, was virtually empty, most of its innumerable telescreen banks dead and deserted.

General Stehle was sitting before a subspace radio transmitter. "Good," he said. "Stand by, then." He snapped a switch, breaking contact, and turned to Chief of Staff Moore.

"That makes thirty-one," he stated, "and Featherday still hasn't reported." When Moore failed to comment, he went on, "Taken together with the fact that his mission was to Coronis, that fact makes it likely that Featherday is never going to report."

Moore shook his head. "Let's not give him up for lost." He glanced at his watch. "We can't wait any longer, though, or the Hyadics will start hitting cities. . . ."

He walked over to a radioman who was still on duty before his microwave

transmitter. "Send this," he ordered, and handed the man a message:

FROM: GENERAL W. W. MOORE
CHIEF OF STAFF
TERRAN ARMED FORCES.
TO: LORD SHOGUL SHAPURO
COMMANDER, TASK FORCE 211
IMPERIAL FLEET, ALANIAN EMPIRE OF THE HYADES.
HYADIC FORCES MAY LAND AT WILL.
THERE WILL BE NO OPPOSITION.

ANOTHER interstellar jump. The viewscreens in Wilbur Featherday's scout ship showed strange new constellations and, scattered in various directions, a number of very bright blue-white stars. Those stars were all members of a single open cluster which, from the Earth, appears as an arrowhead in the cold winter sky.

The Hyades.

One of the cluster stars was much brighter — much nearer — than the others. Featherday verified by means of the spectro-classifier that it was Coronis —the star to which the planet Alania belonged.

The home system of the Hyadic Empire.

A chill skated down his spine at the thought. This was the big one, the toughest mission in a bunch of tough missions.

Alania!

If a planet could be impregnable, if a world could be so guarded by multitudes of perfect machines, incredible weapons, and fanatical defenders that no attack could harm it—then Alania would be that world. This was baiting the lion in his den, with a vengeance!

Tense with sudden apprehension, Featherday spent several minutes sweeping the sky around the star Coronis with a photoelectronic telescope, trying to locate planets. In the end, he concluded reluctantly that he was too far out and made a jump several light-days nearer.

This time he found planets—seven, in all. He studied the farthest-but-one from the star, a giant frozen world four billion miles from Coronis and just about thirty thousand miles in diameter. It had a fair-sized satellite. . . .

Featherday cursed loudly in the confines of the control cabin. That satellite meant extra trouble—quite possibly there was an Alanian observing station on it. The safest procedure would be to arrive near the planet on the night side, at a time when the satellite was on the sunward side. That would necessitate knowing the orbital period of the satellite.

He jumped the ship a light-hour nearer the planet and observed the change in apparent position of the moon. After making a calculation, he swore again: he would have to wait almost an hour before making the final jump. . . .

If only he could call Stehle by subspace radio to explain the delay! But there were strict orders to report only once, after landing, in order to minimize the chance of the enemy intercepting the messages.

That hour was bad; it gave his nervous system all too good a chance to react to the enormity of the risks lying ahead. When it had passed, his uniform was damp with sweat. His hand trembled as he laid his fingers on the control keys.

He pressed down with his middle finger.

An enormous circular region of blackness appeared on the viewscreens, blotting out Coronis and all the other stars in a third of the sky. That was the night side of Coronis Six. Featherday's eyes flew over the instruments, seeking evidence that his little ship was being detected; but the electromagnetic spectrum down to infrared was dead.

Hoping desperately that the Alanians had no automatic monitoring instruments in orbits hereabout, he snapped on the altimeter radar. The planetary surface was ten thousand miles below. He turned on the interplanetary drive and started to make the fastest landing run he dared. If he could just make planetfall without being detected, he would probably be all right. . . .

ONE-FIFTEEN.

Walter Moore, Terran Chief of Staff, stood alone, brooding upon the desolation before him.

The ground level of Central Base looked like a landscape in Hell. The Moon was sinking in the southwestern sky. The crater of Fortress Lunar had cooled until now it was an angry ember which illuminated the scene in somber red and melancholy shadows. Pools of darkness extended in rows across the desert to the gloomy horizon—seating pits for hundreds of brave ships which never would return.

Presently, though there was no sound, something made him look upwards. Almost directly overhead, a tremendous metal sphere was lowering itself out of the dark sky. A moment later, blinding white floodlights flashed down from its sides. It grew larger and larger. Still there was no sound. And the thing kept growing as it sank. . . .

The ship grounded about a mile from the surface buildings of Central Base. Its curved bottom touched the surface of the field—and kept on going down for another fifty feet. The sound, when it arrived some five seconds later, was something between a muffled explosion and a massive groan.

Moore had not moved a muscle. He had been waiting for this vessel to arrive. It was the Hyadic flagship.

The dazzling floodlights illuminated the entire field. Moore estimated that the vessel's diameter must be about two thousand feet—beside it, any Terran ship would be dwarfed. Its surface was broken by hundreds of deadly turrets which menaced the sky and the earth. As he watched, missile launching ports opened to gape at the heavens.

He shifted his briefcase from one hand to the other and started to walk towards the Hyadic ship, squinting sourly against the glare of the lights.

"General Moore!" a voice shouted from behind him. He turned. A figure was waving from the door of one of the buildings.

"Stehle says Featherday is okay!" the voice shouted.

Moore started to tremble. After a moment he dropped his briefcase at his feet and put his face into his hands. He stood so, shoulders shaking, for perhaps a minute—sobbing from sheer relief, and giving thanks.

Then he picked up the briefcase and strode towards the huge sphere, head high, back straight, and grinning into the bright floodlights.

THE undersurface of the ship was like a great sloping metal roof above him when a rectangular section of hull sprang out and down to become a set of steps leading up into the vessel. Four Alanian guardsmen jumped down to the ground and advanced towards him, spreading out as they came and aiming their hand weapons at his belt buckle. Strange—Moore thought—that the most predatory conquerors ever known should be a race of pygmies. None of the mahogany-hued Alanian warriors topped four feet.

They herded him up the steps into the Hyadic flagship. Two minutes later he was in a large room near the geometric center of the vessel. The walls were masses of communication and control equipment. Several high-ranking Alanian officers turned to stare as the guards escorted him in.

This was the Bridge.

An Alanian whose uniform was open at the collar—a mahogany-skinned humanoid uncommonly tall for his race—he was almost five feet tall—came slowly forward. He stopped a couple of yards from Moore and stared up into the Earthman's face.

"I am Shapuriq," he said proudly. His voice betrayed a slight alien accent. "So you have come to accept surrender terms!"

Moore looked down at him.

"No," he said. "To give them!"

Shapuriq scowled up at him. "Earthman," he said sternly, "if you are planning an attack on the grounded ships of

my fleet, you had better discard the idea. Seventy of my ships still ride orbits above your planet. For every Alanian who dies in such an attack, a million Terrans will die also."

"That was not our plan," Moore said. "When our fleet went aloft to attack yours, a squadron of interstellar scout ships managed to escape—without your noticing, I think—into deep space. Their destination was the Hyades. . . ."

SHAPURIQ threw his head back and laughed loudly. "You poor, hopeless, optimistic barbarian," he gasped. "Do you think you can frighten us? Indeed! You have sent ships to attack Alania. I can guess your plan! The little boats hide now in the darkness of interstellar space, but at your signal—unless we surrender!—they will swarm in and devastate Alania, like insects trying to sting a mountain to death!"

Moore grimaced impatiently. "Do you—?" But Shapuriq interrupted.

"Foolish savage," he chortled, "with all the power of this great ship—" he stamped his foot on the deck—"I could not force a gram of matter or an erg of energy through the defenses of Alania! Your little boats will have short lifetimes indeed, if they are so witless as to obey your orders."

"Do you know what a matter fuse is?" Moore asked.

"Yes," Shapuriq grinned. "We discarded them as weapons a century ago. They became obsolete." His smile suddenly vanished and he said scornfully, breath losing its control in the alien atmosphere, "Your schemes cannot harm great Alania . . . but for having thought them, you will die, and a tenth of Earth's population with you. . . ."

"We didn't plan to detonate Alania," Moore said. "But at this moment one of those 'little boats' is sitting on the surface of Coronis Six. Would you care to explain to a witless barbarian what the defenses of Alania are going to do about converting *that* planet to energy?"

Shapuriq looked at Moore hard and straight for a long moment, then turned and called an order in the sing-song Alanian tongue to one of his officers. Moore's knowledge of that language was slight, but when the officer pulled a book of tables down from its clamp on a shelf and started punching data into a calculator, he inferred the import of the command.

"If you told him to calculate the effect on Alania of the detonation of Coronis Six," he said to Shapuriq, "I can tell you the answer: *volatilization!*"

The Hyadic commander made no comment.

Presently the calculator spat out a card. The officer read the printing on it, and Moore could see a nerve twitch beneath the mahogany skin, as he falteringly reported to Shapuriq.

The commander of the Hyadic fleet stood looking downward for quite some time—several minutes. Moore waited patiently. When Shapuriq looked up there was hatred—and respect—in his dark eyes. "You are clever," he admitted. "You have found a weak spot in our armor." He bit his lip. "My fleet will withdraw from your planet. . . ."

"*No!*" Moore contradicted him. "I came here to lay down surrender terms. And I intend to!"

Shapuriq's fingers were trembling as he fingered his tunic. "What are your terms?" he asked apprehensively.

"Point one. You must land all your ships and evacuate them, except for technicians who will serve as instructors for Terran prize crews."

Shapuriq swallowed, and from his look it was something with a surpassingly bitter flavor. He nodded slowly.

"Point two. Within one week's time, the remainder of the Imperial Hyadic fleet must be turned over to us."

Shapuriq's face twisted into a grimace of anguish. "You are trying to go too far," he protested. "The rest of the Empire will sacrifice Alania before agreeing to that. . . ."

"The rest of the Empire has no option," Moore said. "Every one of the

thirty-two state-status planets in the Hyades is in exactly the same position as Alania."

"But what are you trying to do," Shapuriq exclaimed, "take over the Empire?"

"*Yes!* You forced us to this! You pushed us until our backs were against the wall, until we had nothing to lose but our lives. Now—our only hope of security lies in becoming your rulers."

Shapuriq averted his face for a moment. Then he whispered, "I must call Imperial Headquarters on Alania. This is beyond my authority to negotiate. You will have to deal with the Prime Council itself."

Moore nodded.

Shapuriq looked up into the Earthman's face. "A moment ago you spoke of security," he said. "There is none."

He shook his head slowly. "My people have feared this day since they began their conquests, five centuries ago. They surrounded themselves with every defense they could devise. And still this has come . . . your Empire will also fall, Earthman . . . even though you have won for now."

"Oh, I don't know," Moore said. "We've got a few more tricks up our sleeves. Democracy, for instance. We made it work over an entire planet—why not the stars, too? And then there's the Golden Rule. . . ."

Shapuriq only looked puzzled.

COSMIC ENCORES

(Continued from page 6)

one. It did the McCrarys no good, it did their listeners no good and it did science fiction no good. As a joke it wasn't funny. And it hasn't helped those of us who are interested in science fiction either, since crying "Wolf!" is not the way to disseminate knowledge.

LETTERS FROM OUR READERS

So much for the saner side. Now for the gore and tumult of the battlefield.

OLD SWEET SONG
by Jean Courtois

Dear Sam: Not only did you fail to print my first (it's far from the last, kid) letter; you've gone quarterly again! The first offense I might forgive you for. After all, I did send it in a little late. BUT THERE IS ABSOLUTELY NO EXCUSE FOR CUTTING DOWN ON FSM and you know it. Wasamatre? You getting senile? And if you must act that way, you could at least own up to the fact. The winter ish has been on sale for two whole days now and there are still some readers who haven't realized the significance of that word WINTER. How do I know this? Simple. I winked at a picture of Ray Palmer while balancing myself with my left ear firmly wedged between two soggy ice cubes. I can't explain just how this works. U'll have to ask Palmer.

Farmer isn't the only one who can dissect. Witness. Back cover first just to be different. What you need is a distinctive rear.

Front! It's about time you got Ebel. His covers are all darn goog (new word). His inside illos are incredibly poor. Stick to his paintings and we'll all be happy. The editorial is boring. Why do you try to be a scientist, Sam? You are a humorist and by far the funniest prowriter in the field. So be funny, damn it!

Kuttner is good, as usual. I have always preferred fantasy. This story is good borderline. And Finlay! Such beautiful demons! Why does he waste his talent on women? (There's a difference? -ed.)

None of the shorts are readable save Morrison's witty lil piece. Campbell is about as interesting as his mag. UNFIT for us peasants what want to be entertained by our fiction.

Lest you feel lonesome, Sam:

Dick, what happened? Your letter is good!

Leadmines Luppoff, all together now, "WE WANT CAP FUTURE!" I don't know how bad he is (haven't read any. He is about eight years before my time). BUT he can't possibly be any worse then the—the—well, the things in this ish.

Carol McKinney, you write the nicest letters. When are you going to say something?

And Kanadian Keogh; in the first place it's not your joke. I read the same thing about six years ago. Written by Don Marquis, I believe . . . Lord knows where HE heard it. Besides, it's not a very good joke.

ronALD, what a silly thing to confess. The letters you're going to get!

And that's all for now. Fight, anyone? 318 *East Commercial St., Appleton, Wisc.*

All right, so we own up to getting senile. Satisfied? Make you feel real young and full of dash? That's our good deed for the day.

Well, anyway, thanks for defending us against the horrid thought of borrowing a joke from Joe Keogh. We didn't know either Keogh or Marquis had used it—in fact we'd been saving it for an opportunity to use for years. Nice to think someone finds us funny only we're the shy type when it comes to command performances.

WIT AND WITHOUT
by John Courtois

Dear Sam: My microcrithic-minded sister has just read a letter she is going to send you. My manly pride compels me to prove I can be a gay old thing, too. So, I shall now be witty. EVERYBODY DUCK!! On second thought, I shall be serious. The novelty will be too much and Sam will just have to print it.

I am primarily a mystery fan. This favorate* story in TWS was Merwin's ARBITER. Science fiction is notouriously* lacking in memoriable characters. Possably this is because no S-F writer has ever had a long series about a serious person. Draco and his little friends are too frivolous to be remembered long, after the new stories stop coming in. (I presume, there will be such a time.)

Wolfe, on the other hand, will be remembered for hundreds of years. And if you don't believe me, ask Merwin! By the way, didn't he (Merwin) write a novel recently about a firebug?

Another thing, Sam, before I go. In the Feb. TRS you reply to a letter by John Brunner. Now I don't know what your purpose was, but you sounded remarkably like a snob. And that, Sam, is the worst thing I could call any one. I hope you're not a snob because I've never seen one that was happy. And you are too good an editor not to be happy. But I can't really believe this or I wouldn't write letters. 318 *East Commercial Street, Appleton, Wisconsin.*

* Note. There are all sorts of new words in this letter. Dear Sister lost the dictionary.

Self-defense being the first order of the day, we rise in wrath at the implication we snobbed John Brunner. We were just trying to get the facts, ma'am, just get the facts. Mr. Brunner's system of tastes and ratiocinations baffled us and we were leveling with all and sundry. Also, why bring up an argument from STARTLING STORIES here? Or am I snobbing you now?

SKIRTS WILL BE SHORTER
by J. Dean Clark

Dear Mines: The September cover by Alex Schomburg was superb. I would consider it the best of the year so far.

Now I realize that the preceding comment will not rest well in the minds of more mature & dogmatic readers, so I will give my reasons for my stand.

No doubt many people took a cursory glance at it and thought "The French say skirts will be shorter, but this is ridiculous," then proceeded to send you a letter condemning your use of feminine anatomy so immodestly. For these people I can only say that they should stop reading pornographic material.

The theme obviously was a trifle trite,e.g., beautiful girl in arms of bem. However, the details were original enough to nullify that. For instance the girl, her eyes were closed and mouth shut. Not contorted in some ridiculous caricature of a scream. Just a quiet beautiful picture of a woman. Consider the background, such coloring & form, almost gave it the illusion of surrealism. The cold sand covering the nameless city with a wreath of death. The sky, void of light save messengers of darkness.

If I were to be allowed to name it I would label it "Premature Perdition". It gave me the chimera of civilization giving up virtue and having only ruin and endless silence left.

Schomburg's use of interposition for depth was amateurish and the fact that the girl was as big as the bem are its only defects.

ISLAND IN THE SKY was fair. I enjoyed its philosophical undertones, but cared little for the blunt adventure story.—*Arkansas State College, State College, Arkansas.*

Short skirts, did you say? We were under the impression that the skirts were adequately long, but somewhat diaphanous, you might say. More'n one way to skin a cat. Don't you think the girls should always be as big as the bems? More like a fair match that way. Unless you subscribe to the theory that the girls don't have to be as big.

STAMP OF APPROVAL
by Steve Levin

Dear Sir: For the last two years I have been in the Army. Korea & Japan. I missed reading a lot of the SF mags that were published during that time. I'm now in the process of catching up on those mags I missed. Started raiding the local book stores here but just the other day I thought of a plan that would get me the mags and save me much loot too. I went back to my old job at RKO Studios . . . fan mail dept. As I handle a lot of movie stars fan mail I naturally can obtain the foreign stamps on the envelopes. So here is what I'd like published in your SF magazine: WANTED . . . ANY SF MAGAZINES PUBLISHED FROM '51 to '54, will send in return, 30 different cancelled FOREIGN STAMPS for *each* magazine. . . .

Thank you very much.—*Fan Mail Dept., RKO Radio Picts., 780 N. Gower St., Hollywood 38, Calif.*

What, no pictures of Marilyn Monroe?

INK SPOTS
by Rory Faulkner

Dear Sam: It's interesting to compare the new stories with the classics in the September

FSM, just to see how science fiction has changed with the years. It's a good thing, too, because when anything stops changing it is usually because it's dead, and heaven forbid that happening to our favorite indoor sport!

The story that sticks in my mind is Sam Sackett's *Liberation.* It is particularly poignant just now, coming home from captivity after undergoing mental and physical torture almost as bad as that in the story.

The other Martian story by Charles Stearns was a nice little shocker, faintly reminiscent of that unforgettable "To Serve Man."

DOOMSTRUCK finishes on a beautifully ironic note. The moral of this tale seems to be "let well enough alone."

You do have the best looking illustrations in your magazines. I hope you never get that artist that uses the scrawly lines with big blobs of ink all over the scene that so many of the "aristocrats" are featuring. Most of them look like Rohrschach tests. That circular heading for GADGET BAGDAHD is particulary attractive. How about a cover or so from Mel Hunter? That lad is wonderful—I have seen most of his originals, and he is certainly the coming Bonestell.

Have you heard that August 20 is slated by the crackpots to be the day the world ends? If so, this letter won't get there but in any case, a happy explosion to you!—164 *Geneva Place, Covina, Calif.*

Somebody is always forecasting the end of the world and the interesting thing about it is that sooner or later someone is going to be right. But it will be entirely unexpected, as most things are on this dizzy globe and will probably confound the prophets by reversing some of their forecasts. We didn't even hold our breath on that fateful August 20th. But thanks for the tip anyway.

MOVIE REVIEW
by Jim Goldfrank

Dear Mr. Mines: I went to see the 3-D space opera "It Came From Outer Space," together with a western movie, and here report that the western was by far the better of the two pictures. I should also like to say that I walked into the theater prejudiced toward the space opera by an article in the latest copy of your magazine, and didn't stay that way long. Which brings me to a comment on science-fiction movies . . .

Since the war the sf-reading public has been promised a "flood" of movies, supposedly good ones, that would suit their taste. We've had a "flood" of nine or ten. Out of these, a few have been exceptional both as sf and as movies. The greater part has been mediocre, and a couple just plain juvenile. I confess finding myself rather disappointed. I find "Destination Moon," the best of them, being high on the science and low on the fiction. I think "When Worlds Collide," comes second even though it was just the reverse. I'll state unequivocally that the finest thing I've ever seen in an sf movie was the work with the model pancaking down on the snow and ice of the new world in that picture. "Day the Earth Stood Still," comes third as good satire. The rest I could just as easily have missed. I'm waiting with fingers crossed to see what "War of the Worlds" will be like. I think that the best English film of this kind was Korda's "Things to Come," for its sheer scope, and am still waiting to see the pre-war German films which I've heard are good. What can be done to remedy the present situation with mediocre films, I don't know, but would like to see the question kicked around.

I remember the second issue of STARTLING STORIES that I ever read. It took me for the most wild ride of the imagination that I had ever been on up to then. The lead novel was Kuttner's "The Dark World." I remember that for months afterward in your columns there were letters praising it. I still read it on the average of once a year, but a whole new generation of fans has grown up never having read it. About time for a reprint? Heck, they might even make a movie out of it. . .

I would like to object to a continued long term trend in the illustrating of your magazines the nude (or scantily-clad) female motif. I don't mind the naked ladies; in fact I like them that way, but I see no point injecting them into a picture if they have had no reasonable place in the story, or dressing them other than is indicated by the character of the wench as described in the story. You've used the motif so much that the illos featuring it are wearisome and lacking in interest. I believe that you have had *very* good covers recently, but that your inside illos have stagnated with the exception of Schomburg, and in case you think you've caught me contradicting myself, I'll say that his style has much more to offer than the use you've put it to, which use I've just objected to.

Here's hoping I've given you some really constructive criticism.—*1116 Fulton Street, Woodmere, N.Y.*

Our movie reviews are a service feature. We feel that science fiction fans want to know about everything being done in the field. Along those lines we also feel you will want to see any science fiction movie that isn't an out-and-out flop. It is on that basis we have recommended most movies to you, though we had high praise for two: "The Day The Earth Still" and "War of The Worlds." If you had missed the Bradbury picture, "It Came From Outer Space," you'd always have wondered about it—in that respect we have always said you should see it.

Speaking of service, how do you like the service on THE DARK WORLD? Your letter wasn't even printed yet when the story appeared.

WATER UNDER THE BRIDGES
by Henry Moskowitz

Mines Dear Sam: It's been a long time, old chum. While the blame can't all be placed at your

typer, at least fifty per cent can be. What with all this switching of schedules of SS and TWS.

The present ish of FSM (Winter) is reassuring, to say the least. Even though I heartily dislike the return to quarterly schedule. We have come upon sad days, come to think of it. Once upon a time, we could bask in the contemplation of 12 ish of SS, 6 each of TWS, FSM, SpS, and 1 of WSA: this, all in the same year. But now! Heaven alone knows. . . .

THE DARK WORLD is *too* new, methinks. It was beautiful in 1946; it still is. What else would you expect, with HanKuttner's bi-line? Speaking of Hank, he and his better half (CLMoore) are doing an original for Ballantine. Oh joy!

I could take more of Penton and Blake any time you say. For my money, stf's gain editorially speaking was also stf's loss authorially speaking. John W. Campbell, Jr., is two things and has the ability to utilize one or the other (or both): a born story teller and a literateur. "The Impossible Planet" and "The Moon is Hell!" are respective examples. While the series of which THE DOUBLE MINDS is one is not of high enough quality to deserve book publication, it is well worth reprinting. Come to think of it, some firm might try a paperbacked original collection.

Question: What's happened to all the letter columns? No meat at all! So . . . until three months hence, I remain yours truly.—*Three Bridges, New Jersey.*

We are touched, to the bottom of our slightly atrophied heart, by this lament. Such loyalty. So hokay, we promise that FSM and SS and TWS will be weekly or even daily as soon as feasible. Don't pin us down to a time, but you can depend on it that we are doing our best to swamp you. Come again, Hank.

ACETIC ACID
by A/3c Paul Mittelbuscher
AF 17376007

Dear Sam: Subject August TWS . . . . Remarks; . . . Sire one can readily see why thou wert forced to convert SS back into a bi-monthly. Yes, anyone with the intelligence of a high-grade moron can see that there are too MANY stf mags and too FEW writers deserving of the name. However you must give Ken (Hack) Crossen credit, he is doing his best to fill the pages of your publications issue, after issue, after issue . . . . he is a typical "camp-follower" who saw his chance to cash in on the stf boom and took it. . . . I can even rather imagine his thoughts on the subject . . . ."I'll take a old, worn out mystery plot of mine, give the characters "futuristic" sounding names, throw in a few BEM's (instead of Nick Rocco Chicago gang leader and his boys) substitute some exotic future doll for Mazie of the shady reputation and have the central character solve some perplexing problem . . . ah, "yes, Science Fiction" . . . . THAT is SCIENCE FICTION ? ? ? ? Sorry, Sam, but you'll never be able to convince me of that . . . . maybe

[Turn page]

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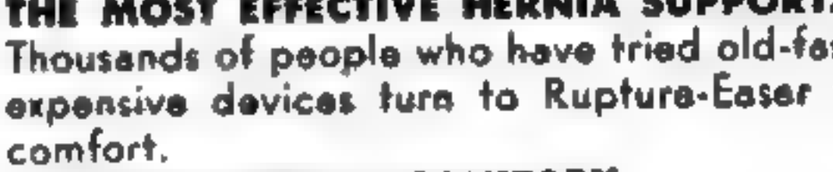

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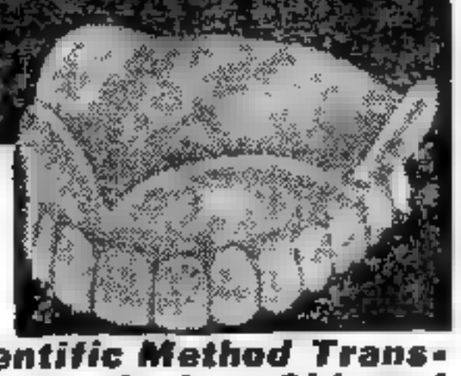

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some young housewife who wouldn't know Heinlein from Mickey Spillane . . . . but not ME Sam, not me . . . . .I still contend that Crossen is a typical hack "mystery" writer who turns out undigestable crud literally by the ton. . . .

Now we come to another of my pet hates . . . . Geo. O. Smith. His novelet was appropriately named BOOBY PRIZE . . . . that is certainly what it deserves. It would of been just right for a 1926 AMAZING . . . . about the most "hackeyed" plot I've come across in many a moon . . . . that same yarn (with slight variations) has ONLY been printed about 50,000,000,000 times. Congradulations George on your "originality" . . . . may you appear in TWS again soon (About 1980 I hope) . . . . Gaaaa . . . .

To top off a miserable issue, Robert Sheckley, usually most apt at putting words together fell flat on his face with FISHING SEASON . . . . fairly good fantasy but what is it doing in a SF mag? Sheckley's disintegration has begun already, his early stuff was very good, now he's beginning to get the idea that he must appear in every issue of each STF mag published and is turning out volumes of crud along with an occasional good piece. Les Waltham and Charles Stearns contributed readable efforts . . . . the remainder of the shorts were a waste of paper.

Here are four guys who are needed if the "Twins" are to lifted out of the rut of mediocrity that they find themselves in now . . . . Poul Anderson, Walter Miller, Kris Neville and Alan Nourse . . . .

I sympathize with Dick Geis . . . . poor fellow, I have the same trouble, me, I have to make matters worse by reading all the fanmags as well (or nearly ALL of them).

S-a-a-m-m . . . .a COGGINS cover . . . . . now what did I tell you about using Coggins (and/or Emsh, Popp etc) instead of SCHOMBURG? Repeat after me please . . . . . IwillletSchomburg doallthecoversfromthisdayhenceamen. . . . .

"No more Coggins, Popp or Emsh"

"We want Schomburg to the finish."—501st *A.D. Gp., O'Hare Field, Chicago, Ill.*

The old sweet Mittelbuscher is gone or did he just seem sweet by comparison with this hulking brute who don't like nuthin' nor nobody? Can it be Army food?

BAFFLED IN SPADES
by Joe Keogh

Salutations, Sam: Opening this letter, I salute your choice for the lead novel in this number of FSM—THE DARK WORLD, I noted in one of my old issues of *Startling,* has been acclaimed one of the best examples of science-fantasy in post-war days. I read it in an ecstatic daze of sorts, and all through it the old Kuttner splendor was throbbing through its pages.

What more can you say about a mysteriously wonderful epoch like that? It appeals to every one of us who has known the taste of unimaginable powers and counter-powers, such as were balanced in THE DARK WORLD. It may not be strict *science* fiction, however you make no claims for that on your front cover, and I sup-

pose you can be allowed to dabble into the half-science of forgotten worlds occasionally. There.

Re the DOUBLE MINDS, it was admittedly a mouthy "classic" title for a story. But it was so full of action, I tell you that when I finished it, it didn't strike me as any longer than a few pages. That's indicative of a pretty worthwhile story.

I beg to ask, why on Ebel's current offering, are imprisoned the letters Jose? I'm in favor of cover paintings telling a story, but not an illogical one. These spacemen are on the moon examining the ruins of an ancient culture much resembling the Earthian Aztec or Inca, right? But Jose is as Iberian as you can get. Maybe those gents are as puzzled as I.

Only in a supposedly private letter to the editor can you talk to someone else. But Val Walker, your paragraph to me seemed more illogical than my argument was. I said that the failure of space travel would be a colossal joke, but if you read between the lines it might have occurred to you that I was speaking ironically. See you on the moon.

Sam, CE is slowly obtaining one of the best atmospheres of any Thrilling s-f mag, even though that word was regrettably non-existent for all practical purposes on this issue's cover (brown on brown stands out?). Howm'eva, the cover was the better for it.

About this Nudnick, your explanation of his sudden departure to the wilds of Pluto was satisfactory enough. Sam, but what he doesn't know is that Plutonians are essentially a cannibalistic race, since plant life on barren Pluto is as rare as a dry spot on Venus or raindrop on Mars . . . they'll express their gratitude for his assistance by—you guessed it. And of course I'm in favor of Pogo wearing a spacesuit, but where'll he find a place for his tail-bone?—63 *Glenridge Ave., St. Catharines, Ont.*

The "Jose" is for Philip José Farmer who visited the ruins in search of atmosphere for a new story and chiseled his name there, you know, like "Kilroy was here." Ask him. He'll back us up in any story. And look—I am getting tired of all youse guys picking on Professor Nudnick. Here is a sterling, reputable scientist who has devoted his life to the most careful conscientious studies, like how many pits in a grapefruit and why does it always

[*Turn page*]

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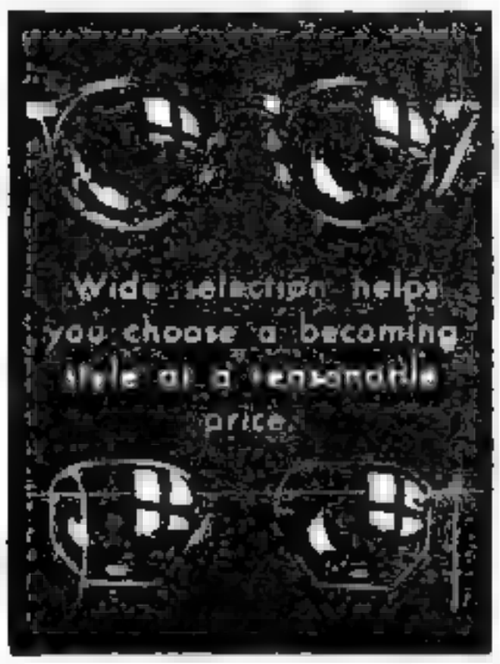

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squirt to the right instead of the left—and all he gets is abuse. The crowning insult is dragging in such flagrant imposters as Haphwit who got his diploma from a mail order school after a two weeks course. This is the "authority" you pit against Nudnick? Pah!

EMBALMING FLUID
by Dick Clarkson

Dear Sam: They are studying me again, and they sure are having a great time in the process. It seems the professors here advocate the reading of science-fiction and they saw not only my letter but your reply in the Winter FSM. So what happens? I ought to sue you! They take me out and stick me overnight in a Massachusetts snow drift, wrapped solely under the aroma of Old Forester. Next morning I woke up dead, and it took them three days to massage my frozen heart enuf to make me study-worthy again. In fact, if it hadn't been for a bright lab assistant, I'd still be dead . . . . . he suggested waving a bottle of Old Forester under my nose, while a pretty girl walked up and down in front of my slab. Well, my heartbeat threw the doctors over backwards, but I live on!

Why, why, oh why do you put alla good short stories in FSM? You must have a particular liking for that mag . . . . it is a lot harder to write good short stories than good novels (from the mouth of more experienced than I), and so you stash all the good ones in the same mag. Have pity, Sam, and let's have something besides good novels in the others, too . . . even if you have to get Kelly to do a special SS POGO strip. Which isn't a bad idea. Hail Val Walker, sage of the New Age. Comes the Revolooshun! (You got ze papers?)

What's this about Pluto? Without consulting me, you'll just up and move a planet? Look, let's make this democratic—I'm boss. We shall not move Pluto until sufficient reason is shown why it should be done. That is, far as I know, the only place that has anything to do with the Old Boy which is as cold as the other(s) is hot.

Know anything about the Nama Hottentots in SW Africa? I've got an anthropology quiz tomorrow, and the only things I know about them are that they are Hottentots . . . . which is much too hot. If they don't simmer down, we could put them on Pluto and maybe strike a happy medium (that wouldn't be nice—it's just make her unhappy all over again) and Pluto wouldn't have to be moved. The only other salient fact the book gave me was that they claim to have invented science-fiction; they have a communistic economy too, see? All goes to show you can't be too careful; they get you coming or going.

Now, wait a minute. What's this about carbon dioxide making the Earth warmer? I know damn little about it, but the only thing I could figure out which would apply is this: carbon dioxide makes a good insulator. Stagnant air is almost as good an insulator as you can get. It is heavy, and so convection currents are not very prevalent; that is, heat which would get into the gas wouldn't go very far. It would stay there. This is also true of any heavy gas; if it won't unite with oxygen

(CO_2 has all the oxygen atoms its molecule can comfortably handle) it won't react for combustion. Or so far as I know, anyhow. But just how much importance this is I dunno. The question is does CO_2 hold heat, collect it, manufacture it (this is out—no energy is released), or what? Maybe this will help someone who knows something about it. But the best bet seems to me to be CO_2's property as an insulator; the weight of the gas would also make for heavier air, which would hold heat better. Take it from here, somebody. I got to go.—*Harvard Univ., Leverett H-33, Cambridge, 38, Mass.*

That's one of the oldest jokes in television, that one about striking a happy medium, and one of the things which killed vaudeville. However, to you we are indebted for sooch a novel method of warming up Pluto. We also knew of a case in reverse. There was a gal worked in a certain publishing office who was so cold that on a real hot day the boys used to invite her in just to stand around and lower the temperature. She could get it down about 15 degrees in ten minutes. Next year they got air-conditioning—just another example of the machine replacing humans.

Thanks also for the first theory about why carbon dioxide might make the earth warmer. Personally, we wouldn't even risk a guess as to whether you might be right or still comatose from fumes of old Forester, but at least we got a theory now. Back in your bottle.

NOWHERE TO RON
by Ron Ellik

"In Greek mythology, a monster, half-man-and-half-bull, living in the labyrinths at Crete, and fed on human flesh."

That, Sam, is a definition of the legendary Mines-otaur. Only one trouble. The Mines-otaur I know is ALL bull, and not even half-a-man.

Well, boy, here I am again. Glad? I didn't think so. Neither did she. (Who is she, you wanna know? Heh, heh.) (That is a disconcerting statement, isn't it Sam?)

I see you printed my letter, Sam. Good boy. Someday soon maybe you will really do something wonderful and get to be a science-fiction editor. Anyhoo, thanks. Every little bit helps, y' know.

I see you have Poulton on the cover. No, Sam, don't blow your lid. I know that he signed his name Ebel. At times he signs it Eberle. But I know it's Pete. Did you ever read one of your competitors, Rocket Stories, and look at the art by Ebel and Eberle therein? You will notice that the styles of those two bards of art are decidedly different, but also that both bear a strong resemblance to two of Pete's many styles. So they and he must be one. Wanna argue?

Oghod I hate myself. It was a terrible thing to say something like the above, wasn't it? Now I have disillusioned many fen. Heh-heh.

[*Turn page*]

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Sam, are you mad at me? You should be. By now you must have received my fanzine. FANtastic Story Mag. Ow. Lousy pun, eh what? But I like the name. I reprint fan-fiction in it, Sam. And the name of my letter column is CO MIC ENCORES (with a space between the O and the M, to let people know even more what it means.). Sam, I dare you to sue me. Heh, heh.

THE DOUBLE MINDS was nowhere, boy, nowhere. Like the tale in SpS, EVEN THE BRIGHT GODS MUST DIE. Nowhere.

I'm gonna write a story called THE GHODS HATE SAN FRAN and send it in to Bob Stewart. Good for a laugh, anyway.—232 *Santa Ana, Long Beach 3, California.*

Mad at you? Heffens, no. In fact, I had expected much more needling out of your fan mag that was actually there. Was disappointed no end. Fan fiction, ugh. Spoofing the pros —there's a legitimate field for a bright young fan. Don't be afraid of the labyrinth, son, there's no monster there.

IN-DIGEST-ION
by John Walston

Pines Dear Mines, Samuel: Woe is me! The pulps is a goin. Things are so bad I'm beginning to wonder if there will be any after 1954. Digest size here, digest size there—O-OOOW I'M GOING NUTS! Sam I beg you on bended knee not to go digest-sized. Enough for that.

Don't play dumb. You did so insult my poetry, so there (where?). Just for that I'm not going to honor you with another sample of my prose. Just wait till my millions of fans nationwide deluge you with angry letters demanding that you apologize to me. I'll be waiting.

The cover on the Winter issue is the best to date I've seen gracing your mag. I hope to see more of Alex Ebel in future issues of FSM.

Where's Snarly Seibel? I kind of miss him. Don't look so shocked Sam, I'm not mad, or am I? Miss Seibel?

(subtle hint) You have my permission to print this letter.—*Vashon, Washington.*

We not only insult your poetry, we insult your prose too, at least if the above is a sample as you say. Then we settle back and wait for your millions of fans to leap to your defense. Seibel? He's in the Navy—I think. Depends on how long they can stand him. Stop beating your brains out about pulps and such. There are no science fiction pulps anyway. This stuff is in a class by itself. Like the letter writers. 'Bye.

Some letters left—lo-o-ng ones, so we'll squeeze them down. Like so: Jim Harmon 427 E. 8th St., Mt. Carmel, Ill., writes a book in his inimitable style covering every single subject in modern, medieval and ancient philosophy, disposing of the publishing business, politics and theology and setting man's place on

earth and among the stars. These, mind you, just tossed off in a letter which closes by saying he is glad he didn't bother with weighty ideas this trip. Mmnf. Bob Pearson, 2423½ G St., Sacramento, Cal., gurgles ecstatically over THE DARK WORLD and wants some letter writers desperately since he is talking to himself already and gets lousy answers.

Burton K. Beerman, Grove School, Madison, Conn., announces the end of summer vacation, (as if we didn't know) and a return to the mines! A high school gal named Rosemary Ellen Burrell, of Battletown, Kentucky, displays the makings of a financial genius. She wants everybody to write her and start a pen pal club, only she is going to charge a dollar for the privilege of joining. Got news for you, Rosemary—there are too many free ones now for you to have many takers.

Bill Steen, Kennard, Nebraska, wants to trade magazines. M. Jennings, 817 3rd, Eureka, Cal., likes the science fiction poem by A. Kulik. The best we've seen, too.

C. M. Armstrong, 3909 Sumner St., Lincoln, Nebraska, thinks frontier-minded individuals should do some space research on their own and come up with a drive more suitable to individual pocket-books than rockets. Want to found a research organization with him?

Russell Swanson has published a portfolio of Finlay drawings which sells for two bucks. Fifteen priceless Finlays. Address 244 South 44th St., Philadelphia 4, Pa.

And so the weariest river winds safe to sea and we run down for another issue of FSM.

—The Editor

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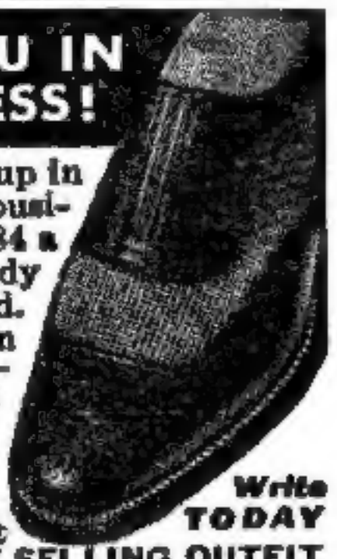

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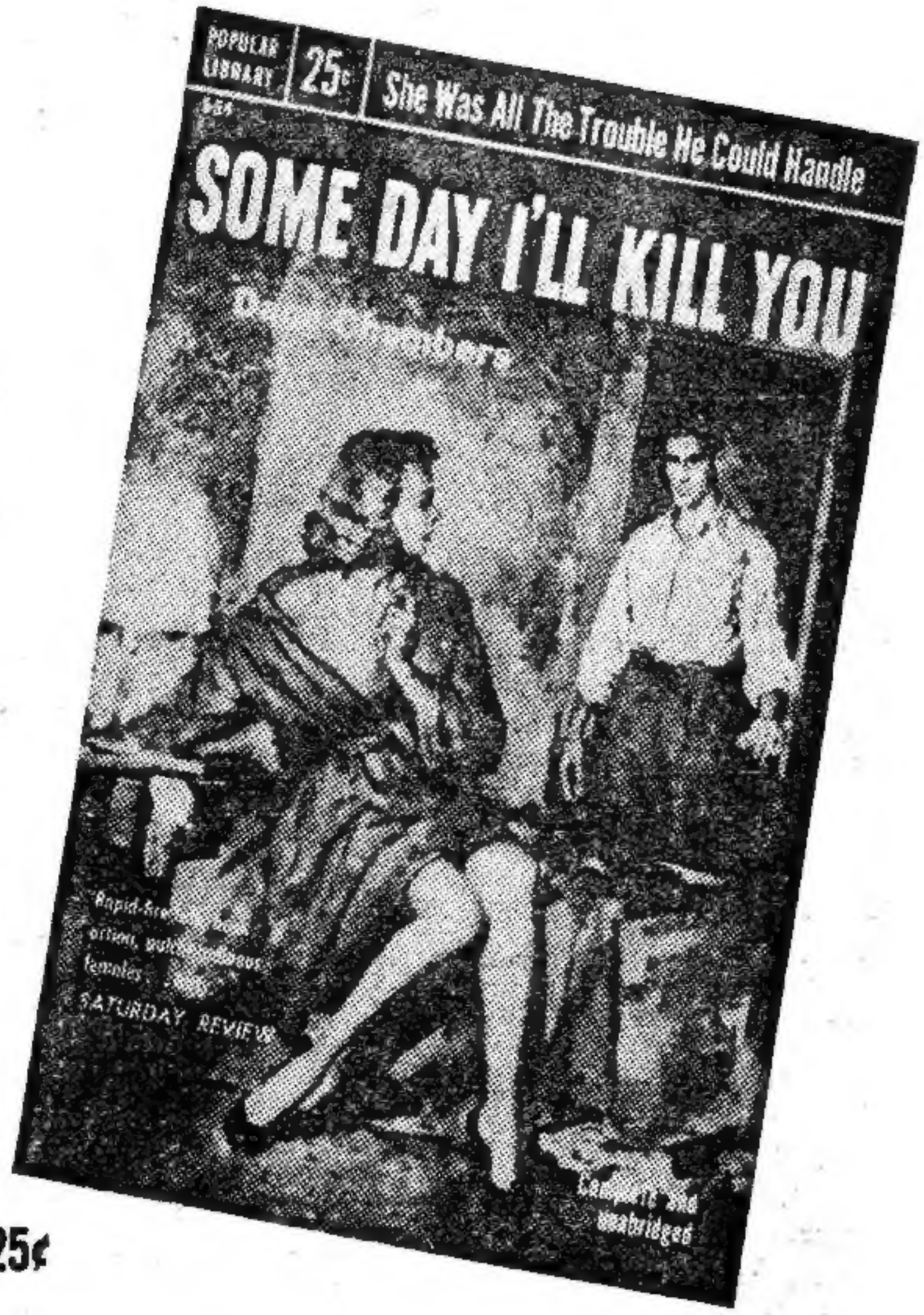

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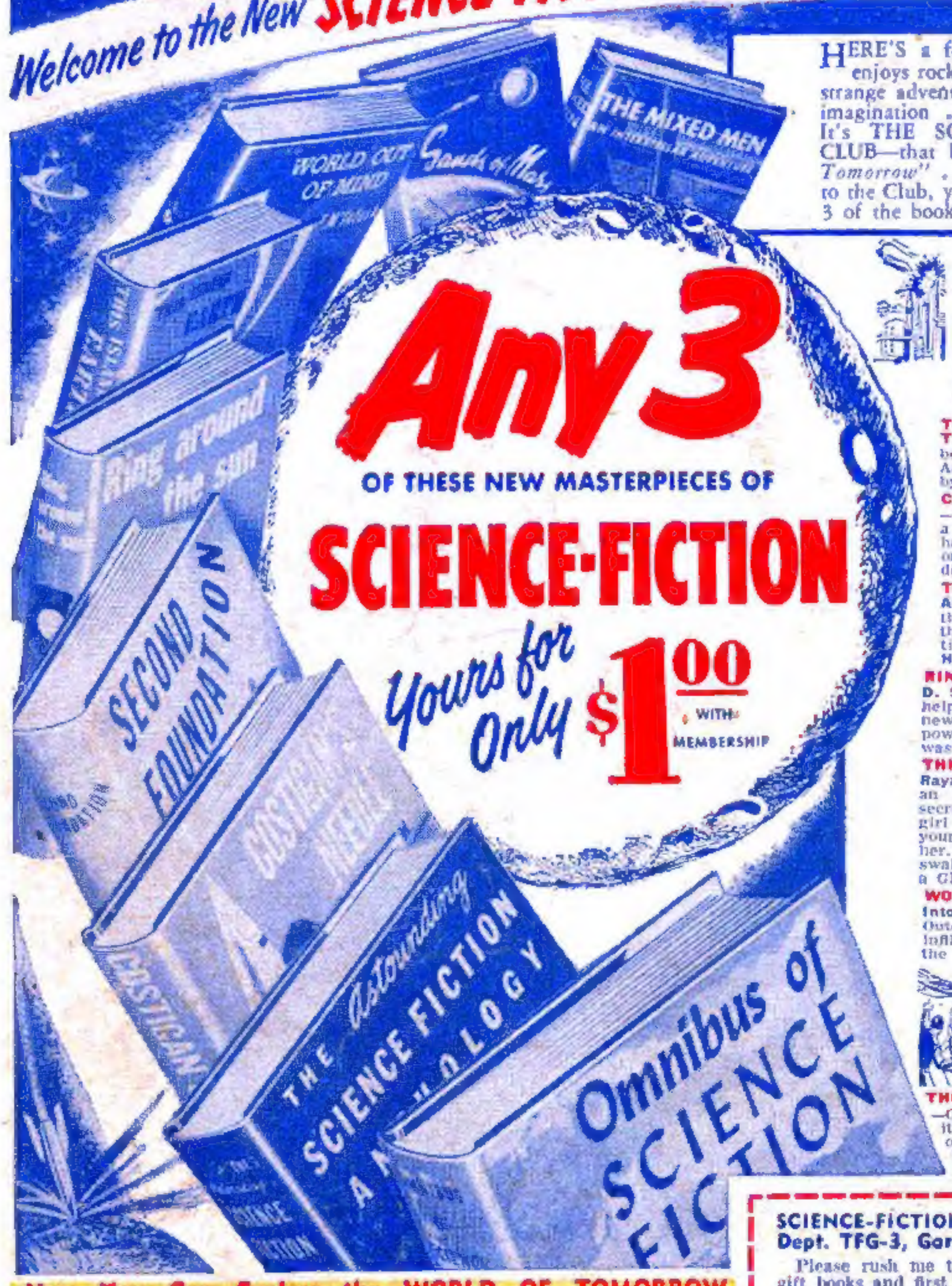

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